PUSHPAGIRI COLLEGE OF PHARMACY
THIRUVALLA

ACADEMIC CALENDAR
2025-2026

ACCREDITED BY
NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

Medicity Campus, Perumthuruthy P.O., Tiruvalla - 689107.

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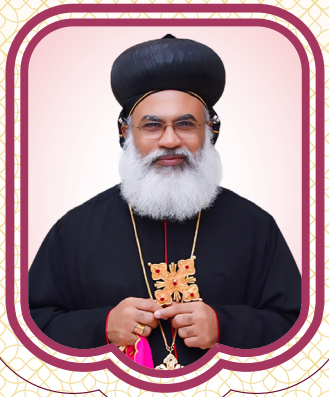
OUR PATRON



His Grace Rev. Dr. Thomas Mar Koorilos

Sri. Jacob Punnoose IPS
Principal Advisor

Rev Dr. Biju Varghese
CEO

Rev. Fr. Dr. Mathew Mazhavancheril
Director, Medicity, Research Centre & Medical College Hospital

Prof. Dr. Santhosh M. Mathews
Principal

Rev. Dr. Antony Chethipuzha
Spiritual Director

PUSHPAGIRI COLLEGE OF PHARMACY

ABOUT US:

Pushpagiri Medical Society established Pushpagiri College of Pharmacy in 2004 with and annual intake of 60 as to mold high quality pharmacist's workforce to suit the requirements of the industry, hospital, researchand community. The college is approved by Govt. of Kerala and Pharmacy Council of India. The college is affiliated to Kerala University of Health Sciences, Thrissur. The institution is upgraded to PG institution from 2011-2012 academic year onwards. Pushpagiri College of Pharmacy is thefirst pharmacy college in Kerala, accredited with "A" grade in the first cycle by NAAC.

MISSION:

- To work towards a knowledge society with a life in abundance, through science and technology, improvinghealth care of our immediate community, state, country and the world at large.

  Pushpagiri College of pharmacy mainly focuses on providing a value based learning which make you a person and a professional throughout your life. Together with the academic development, the overall development of the individual is our concern.

SALIENT FEATURES:

- Excellent infrastructure
- Fully equipped labs according to specifications by Governing bodies.
- Well maintained CIF with sophisticated instruments.
- Highly qualified, international university experienced & dedicated academic illumineries / core faculty members.
- Wi-Fi enabledcampus.
- Well established Research Laboratory

VISION

"We care..... God cures."

ADMINISTRATION

Pushpagiri College of Pharmacy is a Christian minority institution owned by Pushpagiri Medical Society. Pushpagiri Medical Society is promoted by the Malankara Catholic Archdiocese of Tiruvalla. His Grace Rev Dr. Thomas Mar Koorilos, The Archbishop is the Patron of Pushpagiri Medical Society and its Institutions. Rev. Fr. Jose Kallumalickal is the Secretary of the Pushpagiri Medical Society and CEO of Pushpagiri Institutions. Shri. Jacob Punnoose, IPS (Retd. DGP, Govt of Kerala) is the Principal Advisor of Pushpagiri Institutions. Rev. Fr. Aby Vadakkumthala is the Director of Pushpagiri Institutions and Dr. Santhosh M. Mathews is working as Principal of Pushpagiri College of Pharmacy. Rev. Fr. Varghese Manalel is the Spiritual Director of Medicity Campus.

ACADEMIC ADMINISTRATION

Prof. Dr. Santhosh M. Mathews
Principal

Dr. Malini S.
Vice Principal -Administration

Dr. Jeenu Joseph
Vice Principal -Academics

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

Dr. Christy K. Jose
Professor & HOD

Dr. Presannakumaran P.N.
Professor Emiritus

Mrs. Elsa Varghese
Assistant Professor

DEPARTMENT OF PHARMACEUTICS

Mrs. Anjana M. N.
Professor & HOD

Mrs. Deepthi Mathew
Associate Professor

Mrs. Bincy K. Chacko
Associate Professor

Mrs. Liby Tresa Francis
Assistant Professor

DEPARTMENT OF PHARMACEUTICS...

Mrs. Jisha B.
Assistant Professor

Mrs. Teenu Anne Tony
Assistant Professor

Ms. Harija S. Nair
Assistant Professor

DEPARTMENT OF PHARMACOGNOSY

Dr. Jeenu Joseph
Professor & HOD

Mrs. Anju A. Varghese
Associate Professor

DEPARTMENT OF PHARMACY PRACTICE

Dr. Malini S.
Professor & HOD

Mrs. Rani Manju
Associate Professor

Mrs. Archana Vijai
Assistant Professor

Mrs. Pheba Susan Thomas
Assistant Professor

Mrs. Merin T. Koshy
Assistant Professor

Dr Akhila Ann Cherian
Assistant Professor

DEPARTMENT OF PHARMACOLOGY

Dr. Shirly John
Professor & HOD

Dr. A. Prakash
Professor

Mrs. Preethu P. John
Associate Professor

Mrs. Anjana George
Assistant Professor

Mrs. Sumi James
Assistant Professor

Ms. Neethi Shaju
Assistant Professor

Mrs. Haritha H. Kumar
Assistant Professor

Ms. Anakha S.
Assistant Professor

Ms. Anjana Krishna
Assistant Professor

RULES AND REGULATIONS

1. General Discipline

a. Students should maintain a sense of decorum and discipline at all times, both inside and outside the college.

b. Smoking, drinking alcohol, chewing, snuffing, consumption of intoxicating substances, gambling, ragging, political activities, etc. are totally prohibited.

c. Personal belongings like cameras, tape recorders, radios, cellular phones, etc. are not permitted to be taken inside the College Campus. However, permission will be granted on some occasions.

d. Students should park their vehicles in the space ear- marked for the same.

e. Do not misuse electricity, water, gas, chemical, crude drugs and stationery.

f. Students are forbidden to organize or attend any meeting within the College Campus or collect money for any purpose or circulate any notice among themselves or affix any circular on the Notice Board or elsewhere without the prior written permission of the Management / Principal.

g. Students should treat the College property with special care and consideration. They should not make any marking on the furniture /walls/ floor/workbench tops, etc. Any damage or destruction of the college property will be punishable individually or collectively.

h. All students must respect and obey staff and authorities of the institution.

2. Medium of Instruction

- The medium of instruction shall be English; all students are directed to acquire the right proficiency in the English language.

3. Holidays

- National holidays and holidays announced by the State Government / Management from time to time, will be followed.

4. Telephone calls

- Students are not allowed to make/receive any telephone calls directly through the college telephone. However, important messages by parents/guardians will be conveyed to them promptly.
- Use or carrying of mobile phone by the students are not allowed in the class/ lab/exam hall. Violation of the rule will lead to strict disciplinary actions by the authorities.

5. Physical Fitness & Medical Check-ups

- All candidates should submit a physical fitness certificate to be obtained from a Medical Officer in service not below the rank of an Assistant Surgeon.
- All candidates are required to undergo thorough medical check-ups as directed by the management.
- Candidates found medically unfit will not be admitted to the course.

6. Personal Appearance

- Cultivating professional outlook and culture is of prime importance in this institution.
- All students must present themselves neat and clean on all occasions.
- Regular gentleman haircut and daily shaving is compulsory for boys.

7. Dress Code

- Uniform is compulsory in the campus except special occasions when permission is granted by the Principal or Management
- Boys should wear formal pants and shirt.
- Jeans and T-shirt are not allowed.
- All students must wear white over coats bearing name plates in the practical classes.
- All students must wear college uniform and ID during hospital training.

8. Courses

- The Bachelor of Pharmacy (B.Pharm) is a professional degree program spread over a period of eight semesters (four academic years).
- Clinical training for B.Pharm course will be provided at Pushpagiri Medical College Hospital, Thiruvalla.

9. Payments

- Tuition fees should be paid as per the criterion fixed by the Management/ Courts of Law in one instalment at the beginning of each academic year.
- Fees, once remitted, will not be refunded at any point of time.
- All other incidental expense should be borne by the students as and when directed by the Principal/Management.
- If any candidates discontinues/leaves the institution after closing of admission in the first year or discontinues/leaves in the subsequent years, he/she is

liable to pay fees for the remaining years i.e ;fees for the whole course as directed by the authorities.

- Transfer Certificates and other certificates will be issued only after clearing all dues with the college and hostel.

10. Caution deposit

- All students are required to remit a substantial amount (refundable) as caution deposit as directed by the authorities.
- Dues if any will be deducted from caution deposit at the time of final exit.
- Accounts shall be settled only after the satisfactory completion of the course.
- Breakage of glasswares / models/ damage to furniture/ equipments/ charts/ loss of chemicals/ crude drugs, etc. are to be reported to the college office immediately.
- Breakage charges, if any, should be cleared before the registration for the university exam in each year.

11. Time Schedule

- Prayer – The day in the college begins with prayer at 8.55 am. All staff and students are directed to participate in the most auspicious event of the day.
- Classes- Regular classes will be conducted from Monday to Saturday, during the academic session as per the prescribed time table. Classes will start at 9.00 am every day or announced from time to time by Principal.
- Attendance will be taken on subject wise. A minimum of 80% attendance in each subject (Theory and Practical separately) is compulsory for appearing the University Examinations. Late comers will be forbidden from attending the class concerned. Absentees should produce authentic leave letter, duly signed by the parent/guardian to attend the subsequent classes.
- All students must be present in the examination hall (Theory/Practical) as per the schedule announced by the university or college authorities.
- Hall ticket, university ID and medical certificate (as applicable) is mandatory for appearing university examinations.

12. Library assignments

- Students shall be allowed to enter the library only on the submission of their identity cards at the counter.
- All are required to maintain strict silence inside the library.
- Discussions are strictly prohibited inside library.

- Time assigned for library work should be exclusively utilized for that purpose only without any compromise.
- Books and periodicals shall be issued on request, in writing, at the prescribed time on all working days.
- These are to be returned on the same day with due endorsements.
- Damages to books / periodicals will be looked into very seriously. Appropriate compensation shall be levied.

13. Laboratory assignments

- All students must wear neat and clean lab coats inside the laboratory. Personal precautions, if any, should be taken by the student themselves.
- All students should maintain strict discipline while inside the laboratory.
- Proper endorsement should be obtained from the teacher before the commencement of each and every experiment.
- Practical records are to be maintained properly and regularly. These are to be made available for evaluation or verification by the authorities.
- Verified, evaluated and certified practical records are mandatory for appearing university practical examinations.

14. Internal assessments (Statutory)

- All students must attend all class tests and Sessional examinations conducted periodically in every subject (Theory/Practical/Viva).
- A report regarding the performance of the students in sessional examination, percentage of the attendance, and academic performance will be forwarded to the guardian periodically for evaluation and suitable endorsement.
- The report must be returned after due endorsement by the parents or guardian positively.
- A minimum of 50% marks (theory and practical separately) is mandatory for registering university examinations in each subject.

15. Total participation and duty consciousness.

- All students should participate in all the academic / professional / extra-curricular / social activities organized by the college or sponsored by the Management / Statutory bodies.

16. Ragging

- Ragging is defined as any act of physical or mental abuse (including bullying and exclusion) targeted at another student (fresher or

otherwise) on the ground of colour, race, religion, caste, ethnicity, gender (including transgender), sexual orientation, appearance and nationality,

- As per the directions of the Honourable Supreme Court order (SLP (C) No.24295/2004 and SLC No.24296 – 24299/2004) and Kerala University of Health Sciences ragging is strictly banned in all the member institutions.
- Any person indulged in ragging in the past or it is noted later that he has indulged in ragging, admission may be refused or he shall be expelled from the institution.
- Any person who directly or indirectly involved in the act of ragging, if proved, may get an imprisonment up to two years and will be fined as per rule.
- Any person punished for ragging will be expelled from the institution.

17. Covid 19 Protocols

- All students must follow Covid-19 protocols and guidelines issued by Government of Kerala, Kerala University of Health Sciences and Pushpagiri Medical College Hospital Covid Protocol Committee from time to time.
- All Students must be vaccinated against Covid-19 as per the Government of Kerala and Health authorities guidelines.

ABSTRACT OF RULES AND REGULATIONS FOR B.PHARM., M.PHARM AND PHARM D

By Pharmacy Council of India and Kerala University of Health Sciences

BACHELOR OF PHARMACY (B.PHARM)

Governing Bodies:

The course of study is governed by Pharmacy Council of India and Kerala University of Health Sciences.

Eligibility for admission:

Pass in Higher secondary or +2 or VHSE or equivalent examination with 50% aggregate in the following subjects, Physics, Chemistry and Biology/Mathematics/ Computer Science/Biotechnology.

Duration of Course:

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.

Medium of instruction:

Medium of Instruction should be English

Attendance:

Candidate is required to put in minimum 80% of attendance in both theory and practical separately in each subject before admission to examination. A candidate lacking the prescribed attendance in any one subject, in theory or practical, shall not be permitted to admit for the entire examination. He will have to make up for the shortage subsequently to appear for the next university examinations.

Regulation for condonation of lack of attendance:

As per the concerned University Regulations.

Internal Assessment:

Two Sessional exams shall be conducted for each theory/practical course as per the schedule fixed by the college(s). The average marks of two Sessional exams shall be computed for internal assessment. Sessional exam shall be conducted for 30 marks for theory and shall be computed for 15marks. Similarly, Sessional exam for practical shall be conducted for 40 marks and shall be computed for 10 marks.

Internal assessment: Continuous mode

The Continuous mode of Internal Assessment shall be awarded for 10 marks by including Attendance (4 marks), Academic Activities (3marks), and Student Teacher interaction (3marks).

Practical : Students are expected to perform the number of experiments listed in the respective syllabus. Students are required to maintain practical records for each of the practical subject and should be produced at the time of practical examination to be certified by the external examiner. Marks shall be awarded out of maximum of 10 to each of the practical exercises. While awarding the sessional marks for practical experiments, the following consideration should be taken in to account.

- Marks for practical experiments shall be awarded on the basis of performance of the candidate, manipulative skill, results, knowledge of the experiments, regularity in recording the reports and viva-voce.
- The remaining 10 marks of practical sessional marks will be on the basis of a practical sessional examination conducted at the end of the academic year.
- A regular record of theory and practical sessional marks shall be maintained for each student in the institution.

Project work evaluation: The project work shall be submitted for evaluation towards the end of eight semester.

Industrial / Hospital training:

Every candidate shall be required to work for at least 150 hours spread over four weeks in a Pharmaceutical Industry/Hospital. It includes Production unit, Quality Control department, Quality Assurance department, Analytical laboratory, Chemical manufacturing unit, Pharmaceutical R&D, Hospital (Clinical Pharmacy), Clinical Research Organization, Community Pharmacy, etc. After the Semester–VI and before the commencement of Semester–VII, and shall submit satisfactory report of such work and certificate duly signed by the authority of training organization to the head of the institute.

Practice School:

In the VII semester, every candidate shall undergo practice school for a period of 150 hours evenly distributed throughout the semester. The student shall opt any one of the domains for practice school declared by the program committee from time to time. At the end of the practice school, every student shall submit a printed report (in triplicate) on the practice school he/she attended (not more than 25 pages).

Eligibility for appearing in the University examination:

A Candidate will be permitted to register in the University Examination only on getting admit card from KUHS by attaining 80% attendance for theory and practical seperately and also 50% marks for the internal assessment.

MASTER OF PHARMACY (M.PHARM)

❖ Pharmacy Practice

Governing Bodies :

The course of study is governed by Pharmacy Council of India and Kerala University of Health Sciences.

Eligibility for admission:

A candidate who has passed the B.Pharm degree examination of Kerala university of Health Sciences or an examination equivalent there to of any other university recognized by Kerala University of health Sciences with not less than a total of 55% marks for the B.Pharm degree examination shall be eligible for admission to M.Pharm degree course. The candidate should have undergone B.Pharm degree course in an institution approved by AICTE and the PCI.

Duration of the course :

The program of study for M.Pharm shall extend over a period of four semesters (two academic years).

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

Examination :

Eligibility to appear for exams:

A candidate is required to put in at least 80% attendance in individual courses considering theory and practical separately. The candidate shall complete the prescribed course satisfactorily to be eligible to appear for the respective examinations. The candidate must secure 50% marks for internal assessment in theory and practical (including viva) separately in a particular subject in order to be eligible to appear in the university examination of the subject.

DOCTOR OF PHARMACY (Pharm-D)

Title of the Programme:

The 6 year Programme shall be called Pharm. D

Governing Bodies :

The course of study is governed by Pharmacy Council of India and Kerala University of Health Sciences.

Duration of the course

The duration of the course shall be six academic years (five years of study and one year of internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of six years duration is divided into two phases.

Phase I - Consisting of First, Second, Third, Fourth and Fifth academic year.

Phase II - Consisting of internship or residency training during sixth year involving posting in specialty units.

Minimum qualification for admission

A pass in any of the following examinations -

(a) 10+2 examination with Physics and Chemistry as compulsory subjects along with one of the following subjects:

Mathematics or Biology with a minimum of 50% marks in the aggregate for optional subjects.

(b) A pass in D.Pharm course with a minimum of 50% marks from an institution approved by the pharmacy Council of India under section 12 of the Pharmacy Act.

(c) Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

Mode of admission:

Based on merit of the qualifying examination, (Reservation as per Government norms) 50% of the total Merit seats should be filled in by the Government/University from the merit list of the qualifying examination, in keeping with all the reservation rules and the fee structure laid down by the Government of Kerala from time to time. The remaining 50% of the seats can be filled in the respective Managements, as per the norms specified by the State Government from time to time.

Syllabus:

The syllabus for each subjected of study shall be as specified in Appendix - A to the regulations of university website.

Eligibility for appearing Examination

A candidate must have minimum 80% attendance in both Theory and Practical classes separately in each subject and 50% marks for internal assessment for appearing the university examinations.

Condonation:

Only students having 70% attendance or more are eligible for condonation. The benefit of condonation will be available to the students only once during the entire course.

Mode of examinations:

(g) Theory examination shall be of three hours and practical examination shall be of four hours duration. The practical examination shall be evaluated jointly by an internal and an external examiner appointed by the University.

(h) A student who fails in theory or practical examination of a subject shall re-appear both in theory and practical of the same subject.

Clerkship examination:

Oral examination shall be conducted after the completion of clerkship of students. An external and an internal examiner will evaluate the student.

Award of sessional marks and maintenance of records:

1) There shall be at least three periodic sessional examinations during each academic year and the highest aggregate of any two performances shall form the basis of calculating sessional marks.

2) The sessional marks in practical shall be allotted on the following basis:-

   (i) Actual performance in the sessional examination (20 marks);

   (ii) Day to day assessment in the practical class work, Promptness, viva-voce, record maintenance, etc. (10 marks)

Certificate of passing examination:

Every student who has passed the examinations for the Pharm.D, Doctor of Pharmacy as the case may be, shall be granted a certificate by the examining authority.

Minimum marks for passing examination:

A student shall not be declared to have passed examination unless he or she at least 50% marks in each of the separately in the theory examinations, including sessional marks and at least 50% marks in each of the practical examinations including sessional marks.

Eligibility for promotion to next year:

All students who have appeared for all the subjects and passed the first year annual examination are eligible for promotion to the second year and, so on. However, failure in more than two subjects shall debar him or her from promotion to the next year classes. Any one of the two subjects i.e. either Remedial Mathematics or Biology can be carried forward to 2nd year Pharm. D as an additional failed subject alongwith 2 failed subjects of 1st year.

Internship:

Every student has to undergo one year internship as per Appendix-C of the Regulations of the website.

Practical Training:

Hospital posting - Every student shall be posted in constituent hospital for a period of not less than fifty hours to be covered in not less than 200 working days in each of second, third & fourth year course.

Project Work:

To allow the student to develop data collection and reporting skills in the area of community, hospital and clinical pharmacy, a project work shall be carried out under the supervision of a teacher.

PHARM-D (POST BACCALAUREATE) 2010 ONWARDS:

Title of the Programme:

The 3 year Programmes shall be called Pharm.D (Post Baccalaureate)

Duration of the course:

Pharm. D. (Post Baccalaureate) : The duration of the course shall be for three academic years (two years of study and one year internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of three years duration is divided into two phases -

Phase I - consisting of First and Second Academic year. Phase II - consisting of Internship or residency training during third year involving posting in specialty units.

Minimum qualification for admission to Pharm. D. (Post Baccalaureate) Course:

A pass in B. Pharm examination with a minimum of 50% marks from the institution approved by the Pharmacy Council of India, under section 12 of the Pharmacy Act.

Mode of admission

Based on merit of the qualifying examination, (Reservation as per Government norms) 50% of the total Merit seats should be filled in by the government/University from the merit list of the qualifying examination, in keeping with all the reservation rules and the fee structure laid down by the Government of Kerala from time to time. The remaining 50% of the seats can be filled in the respective Managements, as per the norms specified by the State Government from time to time.

Number of admissions

In the above said programmes shall be as prescribed by the Pharmacy Council of India from time to time and presently be restricted as below - Pharm.D. (Post Baccalaureate) Programme - 10 students.

Institutions running B. Pharm programme approved under section 12 of the Pharmacy Act, will only be permitted to run Pharm.D. (Post Baccalaureate) programme. Pharm.D (Post Baccalaureate) will be permitted only in those institutions which are permitted to run Pharm.D programme.

Third Year: Internship or residency training: including postings in speciality units. Student should independently provide the clinical pharmacy services to the allotted wards.

(i) Six months in General Medicine department, and

(ii) Two months each in three other speciality departments

Approval of the authority conducting the course of study : (1) No person, institution, society or university shall start and conduct Pharm.D. (Post Baccalaureate) programme without the prior approval of the Pharmacy Council of India. (2) Any person or pharmacy college for the purpose of obtaining permission under sub-section 1 of section 12 of the Pharmacy Act, shall submit a scheme as prescribed by the Pharmacy council of India. (3) The scheme referred to in sub-regulation

(2) above, shall be in such form and contain such particulars and be preferred in such manner and be accompanied with such fee as may be prescribed. Provided that the Pharmacy Council of India shall not approve any institution under these regulations unless it provides adequate arrangements for teaching in regard to building, accommodation, labs, equipments, teaching staff, non-teaching staff, etc., as specified in Appendix- B to these regulations.

Examination - (1) Every year there shall be an examination to examine the students. (2) Each examination may be held twice every year. The first examination in a year shall be the annual examination and the second examination shall be supplementary examination.

Eligibility for appearing Examination : Only such students who produce certificate from the Head of the Institution in which he or she has undergone the Pharm.D. (Post Baccalaureate) course, in proof of his or her having regularly and satisfactorily undergone the course of study by attending not less than 80% of the classes held both in theory and in practical separately in each subject shall be eligible for appearing at examination.

Mode of examinations : (1) Theory examination shall be of three hours and practical examination shall be of four hours duration. (2) A Student who fails in theory or practical examination of a subject shall re-appear both in theory and practical of the same subject. (3) Practical examination shall also consist of a viva-voce (oral) examination. (4) Clerkship examination - Oral examination shall be conducted after the completion of clerkship of students. An external and an internal examiner will evaluate the student. Students may be asked to present the allotted medical cases

followed by discussion. Students' capabilities in delivering clinical pharmacy services, pharmaceutical care planning and knowledge of therapeutics shall be assessed.

Award of sessional marks and maintenance of records:

(1) A regular record of both theory and practical class work and examinations conducted in an institution imparting training for Pharm.D. (Post Baccalaureate) course, shall be maintained for each student in the institution and 30 marks for each theory and 30 marks for each practical subject shall be allotted as sessional.

(2) There shall be at least three periodic sessional examinations during each academic year and the highest aggregate of any two performances shall form the basis of calculating sessional marks. (3) The sessional marks in practicals shall be allotted on the following basis:

(i) Actual performance in the sessional examination (20 marks);

(ii) Day to day assessment in the practical class work, promptness, viva-voce, record maintenance, etc. (10 marks).

Minimum marks for passing examination: A student shall not be declared to have passed examination unless he or she secures at least 50% marks in each of the subjects separately in the theory examinations, including sessional marks and at least 50% marks in each of the practical examinations including sessional marks.

Eligibility for promotion to next year: All students who have appeared for all the subjects and passed the first year annual examination are eligible for promotion to the second year and, so on. However, failure in more than two subjects shall debar him or her from promotion to the next year classes.

Internship: (1) Internship is a phase of training wherein a student is expected to conduct actual practice of pharmacy and health care and acquires skills under the supervision so that he or she may become capable of functioning independently.

(2) Every student has to undergo one year internship as per Appendix-C to these regulations.

Approval of examinations: Examinations mentioned in regulations 10 to 12 and 14 shall be held by the examining authority hereinafter referred to as the university, which shall be approved by the Pharmacy Council of India under sub-section (2) of section 12 of the Pharmacy Act, 1948. Such approval shall be granted only if the examining authority concerned fulfills the conditions as specified in Appendix-D to these regulations.

Certificate of passing examination: Every student who has passed the examinations for the Parm.D. (Post Baccalaureate) (Doctor of Pharmacy) shall be granted a certificate by the examining authority. For details log on to www.kuhs.ac.in

Practical training

Hospital posting: Every student shall be posted in constituent hospital for a period of not less than fifty hours to be covered in not less than 200 working days in each of first & second year course. Each student shall submit report duly certified by the preceptor and duly attested by the Head of the Department or Institution as prescribed. In the third year, every student shall spend half a day in the morning hours attending ward rounds on daily basis as a part of clerkship. Theory teaching may be scheduled in the afternoon.

Project work : (1) To allow the student to develop data collection and reporting skills in the area of community, hospital and clinical pharmacy, a project work shall be carried out under the supervision of a teacher. The project topic must be approved by the Head of the Department or Head of the Institution.

Evaluation: The following methodology shall be adopted for evaluating the project work.

(1) Project work shall be evaluated by internal and external examiners.

(ii) Students shall be evaluated in group for hours (i.e., about half an hour for a group of four students).

(iii) Three seminars presented by students shall be evaluated for twenty marks each and the average of best two shall be forwarded to the university with marks of other subjects.

Read and understood all the rules and regulations of the institution, society and affiliating bodies. A copy of the same is received.

Name & Signature
of the Student

Date :

Name & Signature
of the Parent/ Guardian

Date :

AUGUST - 2025

1	Friday	
2	Saturday	
3	Sunday	Holiday
4	Monday	
5	Tuesday	
6	Wednesday	
7	Thursday	
8	Friday	
9	Saturday	Holiday-Second Saturday
10	Sunday	Holiday
11	Monday	
12	Tuesday	
13	Wednesday	
14	Thursday	
15	Friday	Holiday-Independence Day
16	Saturday	
17	Sunday	Holiday
18	Monday	
19	Tuesday	
20	Wednesday	
21	Thursday	
22	Friday	
23	Saturday	
24	Sunday	Holiday
25	Monday	
26	Tuesday	
27	Wednesday	
28	Thursday	Holiday- Ayyankali Jayanthi
29	Friday	
30	Saturday	
31	Sunday	Holiday

SEPTEMBER - 2025

1	Monday	
2	Tuesday	
3	Wednesday	
4	Thursday	Onam Holidays
5	Friday	Thiruvonam/Teachers Day/ Nabidhinam
6	Saturday	Onam Holidays
7	Sunday	Holiday
8	Monday	
9	Tuesday	
10	Wednesday	
11	Thursday	
12	Friday	
13	Saturday	Holiday-Second Saturday
14	Sunday	Sreekrishna Jayanthi
15	Monday	
16	Tuesday	
17	Wednesday	
18	Thursday	
19	Friday	
20	Saturday	
21	Sunday	Holiday-Sreenarayanaguru Samadhi
22	Monday	
23	Tuesday	
24	Wednesday	
25	Thursday	World Pharmacist Day
26	Friday	
27	Saturday	
28	Sunday	Holiday
29	Monday	
30	Tuesday	

OCTOBER - 2025		
1	Wednesday	Pooja Holidays
2	Thursday	Holiday-Gandhijayanthi
3	Friday	
4	Saturday	
5	Sunday	Holiday
6	Monday	
7	Tuesday	
8	Wednesday	
9	Thursday	
10	Friday	
11	Saturday	Holiday-Second Saturday
12	Sunday	Holiday
13	Monday	
14	Tuesday	
15	Wednesday	
16	Thursday	
17	Friday	
18	Saturday	
19	Sunday	Holiday
20	Monday	Holiday-Deewali
21	Tuesday	
22	Wednesday	
23	Thursday	
24	Friday	
25	Saturday	
26	Sunday	Holiday
27	Monday	
28	Tuesday	
29	Wednesday	
30	Thursday	
31	Friday	

NOVEMBER - 2025

1	Saturday	
2	Sunday	Holiday
3	Monday	
4	Tuesday	
5	Wednesday	
6	Thursday	
7	Friday	
8	Saturday	Holiday-Second Saturday
9	Sunday	Holiday
10	Monday	
11	Tuesday	
12	Wednesday	
13	Thursday	
14	Friday	
15	Saturday	
16	Sunday	Holiday
17	Monday	
18	Tuesday	
19	Wednesday	
20	Thursday	
21	Friday	
22	Saturday	
23	Sunday	Holiday
24	Monday	
25	Tuesday	
26	Wednesday	
27	Thursday	
28	Friday	
29	Saturday	
30	Sunday	Holiday

DECEMBER - 2025		
1	Monday	Holiday World AIDS Day
2	Tuesday	
3	Wednesday	
4	Thursday	
5	Friday	
6	Saturday	
7	Sunday	Holiday
8	Monday	
9	Tuesday	
10	Wednesday	
11	Thursday	
12	Friday	
13	Saturday	Holiday-Second Saturday
14	Sunday	Holiday
15	Monday	
16	Tuesday	
17	Wednesday	
18	Thursday	
19	Friday	
20	Saturday	
21	Sunday	Holiday
22	Monday	
23	Tuesday	
24	Wednesday	
25	Thursday	Holiday-Christmas
26	Friday	
27	Saturday	
28	Sunday	Holiday
29	Monday	
30	Tuesday	
31	Wednesday	

JANUARY - 2026

1	Thursday	
2	Friday	Holiday-Mannam Jayanthi
3	Saturday	
4	Sunday	Holiday
5	Monday	
6	Tuesday	
7	Wednesday	
8	Thursday	
9	Friday	
10	Saturday	Holiday-second Saturday
11	Sunday	Holiday
12	Monday	
13	Tuesday	
14	Wednesday	
15	Thursday	
16	Friday	
17	Saturday	
18	Sunday	Holiday
19	Monday	
20	Tuesday	
21	Wednesday	
22	Thursday	
23	Friday	
24	Saturday	
25	Sunday	Holiday
26	Monday	Holiday- Republic Day
27	Tuesday	
28	Wednesday	
29	Thursday	
30	Friday	
31	Saturday	

FEBRUARY - 2026

1	Sunday	
2	Monday	
3	Tuesday	
4	Wednesday	
5	Thursday	
6	Friday	
7	Saturday	Holiday-Second Saturday
8	Sunday	Holiday
9	Monday	
10	Tuesday	
11	Wednesday	
12	Thursday	
13	Friday	
14	Saturday	
15	Sunday	Holiday-Maha Sivarathri
16	Monday	
17	Tuesday	
18	Wednesday	
19	Thursday	
20	Friday	
21	Saturday	
22	Sunday	Holiday
23	Monday	
24	Tuesday	
25	Wednesday	
26	Thursday	
27	Friday	
28	Saturday	

MARCH - 2026

1	Sunday	Zero Discrimination Day
2	Monday	Holiday
3	Tuesday	
4	Wednesday	
5	Thursday	
6	Friday	
7	Saturday	Holiday-Second Saturday
8	Sunday	Holiday International Women's Day
9	Monday	
10	Tuesday	
11	Wednesday	
12	Thursday	
13	Friday	
14	Saturday	
15	Sunday	Holiday
16	Monday	
17	Tuesday	
18	Wednesday	
19	Thursday	
20	Friday	Holiday-Eid Ul-Fitr
21	Saturday	
22	Sunday	Holiday
23	Monday	
24	Tuesday	
25	Wednesday	
26	Thursday	
27	Friday	
28	Saturday	
29	Sunday	Holiday
30	Monday	
31	Tuesday	

APRIL - 2026		
1	Friday	Holiday-May Day
2	Saturday	World Asthma Day
3	Sunday	
4	Monday	Holiday
5	Tuesday	
6	Wednesday	
7	Thursday	
8	Friday	
9	Saturday	Holiday-second Saturday
10	Sunday	Holiday
11	Monday	
12	Tuesday	Mother's Day
13	Wednesday	
14	Thursday	
15	Friday	
16	Saturday	
17	Sunday	Holiday
18	Monday	
19	Tuesday	
20	Wednesday	
21	Thursday	
22	Friday	
23	Saturday	
24	Sunday	Holiday
25	Monday	
26	Tuesday	
27	Wednesday	
28	Thursday	
29	Friday	
30	Saturday	
31	Sunday	Holiday

MAY - 2026		
1	Thursday	Holiday - May Day
2	Friday	World Asthma Day
3	Saturday	
4	Sunday	Holiday
5	Monday	
6	Tuesday	
7	Wednesday	
8	Thursday	
9	Friday	
10	Saturday	Holiday - Second Saturday
11	Sunday	Holiday
12	Monday	Mother's Day
13	Tuesday	
14	Wednesday	
15	Thursday	
16	Friday	
17	Saturday	
18	Sunday	Holiday
19	Monday	
20	Tuesday	
21	Wednesday	
22	Thursday	
23	Friday	
24	Saturday	
25	Sunday	Holiday
26	Monday	
27	Tuesday	
28	Wednesday	
29	Thursday	
30	Friday	
31	Saturday	

JUNE - 2026

1	Monday	
2	Tuesday	
3	Wednesday	
4	Thursday	
5	Friday	World Environment Day
6	Saturday	
7	Sunday	Holiday
8	Monday	
9	Tuesday	
10	Wednesday	
11	Thursday	
12	Friday	
13	Saturday	Holiday-Second Saturday
14	Sunday	Holiday
15	Monday	
16	Tuesday	
17	Wednesday	
18	Thursday	
19	Friday	
20	Saturday	
21	Sunday	Holiday
22	Monday	
23	Tuesday	
24	Wednesday	
25	Thursday	Holiday- Muharam
26	Friday	
27	Saturday	
28	Sunday	Holiday
29	Monday	
30	Tuesday	

JULY - 2026		
1	Wednesday	
2	Thursday	
3	Friday	
4	Saturday	
5	Sunday	Holiday
6	Monday	
7	Tuesday	
8	Wednesday	
9	Thursday	
10	Friday	
11	Saturday	Holiday-Second Saturday
12	Sunday	Holiday
13	Monday	
14	Tuesday	
15	Wednesday	
16	Thursday	
17	Friday	
18	Saturday	
19	Sunday	Holiday
20	Monday	
21	Tuesday	
22	Wednesday	
23	Thursday	
24	Friday	
25	Saturday	
26	Sunday	Holiday
27	Monday	
28	Tuesday	
29	Wednesday	
30	Thursday	
31	Friday	

EXAMINATION SCHEDULES

(ACADEMIC YEAR 2025-26)

B-PHARM

BATCH	PROGRAM	DATE OF COMMENCEMENT
I Sem B-Pharm	Commencement of Theory & Practical Classes	09.10.2026
	First Sessional Practical Examinations	01.12.2025
	First Sessional Theory Examinations	08.12.2025
	Second Sessional Practical Examinations	09.02.2026
	Second Sessional Theory Examinations	16.02.2026
	End Semester Theory Examination	24.02.206
	End Semester Practical Examination	26.02.2026
	Tentative date of Commencement of KUHS Examination	30.03.2026
II Sem B-Pharm	Commencement of Theory & Practical Classes	05.05.2025
	First Sessional Practical Examinations	07.07.2025
	First Sessional Theory Examinations	14.07.2025
	Second Sessional Practical Examinations	08.09.2025
	Second Sessional Theory Examinations	15.09.2025
	End Semester Practical Examination	22.09.2025
	End Semester Theory Examination	23.09.2025
	Tentative date of Commencement of KUHS Examination	21.10.2025
III Sem B-Pharm	Commencement of Theory & Practical Classes	06.11.2025
	First Sessional Practical Examinations	05.01.2026
	First Sessional Theory Examinations	12.01.2026
	Second Sessional Practical Examinations	09.03.2026
	Second Sessional Theory Examinations	16.03.2026
	Tentative date of Commencement of KUHS Examination	20.04.2026
IV Sem B-Pharm	Commencement of Theory & Practical Classes	27.05.2025
	First Sessional Practical Examinations	14.07.2025
	First Sessional Theory Examinations	28.07.205
	Second Sessional Practical Examinations	22.09.2025

IV Sem B-Pharm	Second Sessional Theory Examinations	06.10.2025
	End Semester Practical Examination	03.10.2025
	End Semester Theory Examination	04.10.2025
	Tentative date of Commencement of KUHS Examination	10.11.2025
V Sem B-Pharm	Commencement of Theory & Practical Classes	24.11.2025
	First Sessional Practical Examinations	12.01.2026
	First Sessional Theory Examinations	19.01.2026
	Second Sessional Practical Examinations	23.03.2026
	Second Sessional Theory Examinations	30.03.2026
	Tentative date of Commencement of KUHS Examination	04.05.2026
VI Sem B-Pharm	Commencement of Theory & Practical Classes	10.06.2025
	First Sessional Practical Examinations	11.08.2025
	First Sessional Theory Examinations	18.08.2025
	Second Sessional Practical Examinations	13.10.2025
	Second Sessional Theory Examinations	17.10.2025
	Tentative date of Commencement of KUHS Examination	24.11.2025
VII Sem B-Pharm	Date of Commencement of Industrial/Hospital training	08.12.2025
	Commencement of Theory & Practical Classes	12.01.2026
	First Sessional Practical Examinations	02.03.2026
	First Sessional Theory Examinations	09.03.2026
	Final Proof Of Practice School Project	20.04.2026
	Second Sessional Theory Examinations	04.05.2026
	Second Sessional Practical Examinations	11.05.2026
	Tentative date of Commencement of KUHS Examination	15.06.2026
VIII Sem B-Pharm	Commencement of Theory Classes	15.09.2025
	First Sessional Theory Examinations	17.11.2025
	Mock Presentation	05.12.2025
	Second Sessional Theory Examinations	19.01.2026
	Project Submission	05.02.2026
	Tentative date of Commencement of KUHS Examination	02.03.2026

EXAMINATION SCHEDULES

(Academic Year 2025-26)

Pharm- D

BATCH	PROGRAM	DATE OF COMMENCEMENT
I Year Pharm- D	Commencement of Theory & Practical Classes	23.09.2025
	First Sessional Theory Examinations	05.01.2026
	First Sessional Practical Examinations	02.02.2026
	Second Sessional Theory Examinations	01.04.2026
	Second Sessional Practical Examinations	15.06.2026
	Third Sessional Theory Examinations	01.07.2026
	End Semester Examination	13.07.2026
	Tentative date of Commencement of KUHS Examination	01.09.2026
II Year Pharm- D	Commencement of Theory & Practical Classes	18.09.2025
	Commencement of Hospital Training	13.10.2025
	First Sessional Theory Examinations	12.01.2026
	First Sessional Practical Examinations	16.03.2026
	Second Sessional Theory Examinations	20.04.2026
	Second Sessional Practical Examinations	22.06.2026
	Third Sessional Theory Examinations	27.07.2026
	Tentative date of Commencement of KUHS Examination	05.10.2026
III Year Pharm- D	Commencement of Theory & Practical Classes	13.10.2025
	Commencement of Hospital Training	10.11.2025
	First Sessional Theory Examinations	16.02.2026
	First Sessional Practical Examinations	06.04.2026
	Second Sessional Theory Examinations	20.04.2026
	Second Sessional Practical Examinations	06.07.2026
	Third Sessional Theory Examinations	20.07.2026
	Tentative date of Commencement of KUHS Examination	02.11.2026

IV Year Pharm- D & I Year Pharm D (PB)	Commencement of Theory & Practical Classes	12.11.2026
	First Sessional Theory Examinations	09.02.2026
	Second Sessional Theory Examinations	11.05.2026
	First Sessional Practical Examinations	25.05.2026
	Second Sessional Practical Examinations	03.08.2026
	Third Sessional Theory Examinations	10.08.2026
	Tentative date of Commencement of KUHS Examination	23.11.2026
V Year Pharm- D & II Year Pharm D (PB)	Commencement of Theory Classes	10.12.2025
	Commencement Hospital Training	15.12.2025
	IRC Meeting	15.01.2026
	IEC Meeting	22.01.2026
	First Sessional Theory Examinations	09.03.2026
	Second Sessional Theory Examinations	08.06.2026
	Journal Club Presentation	14.05.2026
	Clerkship Presentation	06.04.2026
	Project Review	09.07.2026
	Mock Presentation	06.08.2026
	Third Sessional Theory Examinations	14.09.2026
	Tentative date of Commencement of KUHS Examination	28.09.2026

NOTE

I : IAEC, IEC & RMC will be scheduled & conducted as and when required-
II : All these days are tentative & subjective to change as per PCI /KUHS directives-
III : Detailed scheduled will be announced from time to time & will be uploaded in class groups-

PUSHPAGIRI COLLEGE OF PHARMACY,
MEDICITY CAMPUS, THIRUVALLA

IQAC 2025-2026 PLANNER

No.	Date	Activity	Type of Activity	Organizing Dept./Unit
1	06th Aug 2025	FDP - KUHS	FDP	Dr.Christy K Jose
2	14th Aug 2025	Graduation Pharm.D	Celebration	Dr.Malini S
3	15th Aug 2025	Independence Day	Celebration	Dr.Jeenu Joseph
4	19th Aug 2025	World Photography Day	Commemorative Day	Mrs. Saira Susan Varghese
5	August 2025	Clinical Research	Career Guidance -Placement Cell	Mrs.Deepthi Mathew
6	01th Sep 2025	Onam	Celebration	Dr.Jeenu Joseph
7	05th Sep 2025	Teachers' Day	Celebration	Dr.Jeenu Joseph
8	08th Sep 2025	International Literacy Day	Commemorative Day	Mrs.Rani Manju
9	17th - 23rd Sep 2025	National Pharmacovigilance Week	Commemorative Week	Dr.Malini S
10	20th Sep 2025	PCP INTERCON 2025	International Conference	Dr.Christy K Jose
11	21st Sep 2025	International peace day	Commemorative Day	Mrs.Jisha B
12	25th Sep 2025	World Pharmacists Day	Commemorative Day	Dr.Jeenu Joseph
13	29th Sep 2025	World Heart Day	Community-Outreach	Mrs. Merin T. Koshy
14	September 2025	Orientation for First Years	SSGP Activity	Mrs. Mincy Mathew
15	02nd Oct 2025	Swacchh Bharat Mission Programme	NSS	Mrs.Anju V

16	10th Oct 2025	World Mental Health Day	SSGP Activity	Mrs. Mincy Mathew
17	11th Oct 2025	International Day of the Girl Child	Commemorative Day	Mrs. Teenu Anne Tony
18	20th – 26th Oct 2025	National Pharmacy Week	Commemorative Week	Mrs. Divya V.
19	25th Oct 2025	PCP PHARMACON 2025	National Seminar	Dr.Malini S
20	Oct 2025	Motivation Program for Freshers	SSGP Activity	Mrs. Mincy Mathew
21	18th – 24th Nov 2025	Antimicrobial Resistance Awareness Week	Community Outreach	Ms. Harija S. Nair
22	19th Nov 2025	QUAMI EKTA Week	NSS	Mrs.Anju V
23	25th Nov 2025	International Day for the Elimination of Violence Against Women	Commemorative Day	Mrs.Haritha H Kumar
24	Nov 2025	Freshers Day	Celebration	Mrs Preethu P John
25	01st Dec 2025	World AIDS Day	Commemorative Day	Mrs. Sumi James
26	10th Oct 2025	World Human Rights Day	Commemorative Day	Ms.Christa J George
27	18th Dec 2025	Course on LMS and outcome based education	FDP	Mrs.Bincy.K.Chacko
28	Dec 2025	Waste Management	Training session-Non teaching	Dr.Anju A Varghese
29	Dec 2025	Christmas 2025	Celebration	Dr.Jeenu Joseph
30	12th Jan 2026	National Youth Day	Commemorative Day	Pharmaceutics
31	12th Jan 2026	Farewell B.Pharm (2021-2025 Batch)	Celebration	Pharmaceutics
32	26th Jan 2026	Republic Day	Commemorative Day	Union
33	30th Jan 2026	World Leprosy Day	Commemorative Day	NSS

34	04th Feb 2026	World Cancer Awareness Day	Awareness Class	NSS
35	16th Feb 2026	Non-communicable disease-Awareness class	Awareness programme on NCD	Pharmacognosy
36	28th Feb 2026	National Science Day	Commemorative Day	Pharmaceutics
37	Feb. 2026	Computer Saksharatha	FDP-Non teaching	IQAC
38	Feb. 2026	Sports 2026	Celebration	Union
39	Feb. 2026	NSS Camp	Awareness programmes	NSS
40	01th Mar 2026	Zero Discrimination Day	Awareness Class	NSS
41	06th Mar 2026	National Pharmacy Education Day 2026	Awareness class about pharmacy education	Pharmacology
42	08th Mar 2026	International Women's Day	Women health awareness [menstrual hygiene, anaemia]	Pharm. Chemistry
43	March 2026	Expert Talk	Continuing Professional Development (CPD) Session	IQAC
44	March 2026	Horizon 2026	Celebration	Union
45	07th Apr 2026	World Health Day	Summer health dehydration prevention	Pharmacognosy
46	22th Apr 2026	Earth Day	Commemorative Day	NSS
47	25th Apr 2025	World malaria day	Awareness programme	Pharmacology
48	April 2026	PCP INTERCON 2026	International Seminar	Pharmacology
49	01th May 2026	International Labour Day	Awareness Class	NSS
50	15th May 2026	Palliative care	Home visit medication review	Pharm. Chemistry
51	31th May 2026	World No Tobacco Day	Antidrug and antitobacco awareness	Pharmacy Practice

52	May 2026	College Union Election	Election	Student Affairs
53	May 2026	College Day	Celebration	Union
54	05th Jun 2026	World Environment Day	Awareness of pollution and control measures	Pharmacognosy
55	14th Jun 2026	World Blood Donor Day	Blood Donation camp	Pharmacy Practice
56	21th Jun 2026	International Yoga Day	Yoga and mental health awareness	Pharm. Chemistry
57	26th Jun 2026	International Day Against Drug Abuse	Adolescent Awareness Programme	Pharmacy Practice
58	June 2026	Expert Talk	Continuing Professional Development (CPD) Session	IQAC
59	11th Jul 2026	World Population Day	Family planning orientation	Pharmacology
60	22th Jul 2026	Awareness program on communicable diseases	Communicable diseases prevention programme	Pharmaceutics
61	28th Jul 2026	World Hepatitis Day	Awareness campaign	Pharmacology
62	July 2025	Mass Tree Plantation Programme		NSS
63	30th Jul 2026	Environmental health	Sanitation awareness programme	Pharmaceutics
64	July 2026	Health Exhibition	Accreditation	Pharmaceutics
65	Jul-26	Alumni Meet	Meeting - Alumni Association	Alumni Association

PUSHPAGIRI
COLLEGE OF PHARMACY
MEDICITY CAMPUS, PERUMTHURUTHY

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PROGRAMME OUTCOMES

COLLEGE	**Pushpagiri College of Pharmacy**
COURSE	**B Pharm**

Sl No:	PO	DESCRIPTION
1.	PO 1: Pharmacy Knowledge	Apply knowledge of pharmacy, pharmaceutical sciences, and allied subjects to solve problems related to drug development, formulation, and healthcare.
2.	PO 2: Planning Abilities	Demonstrate effective planning skills including time management, resource allocation, and project execution in both academic and professional settings.
3.	PO 3: Problem Analysis	Identify, analyze, and solve complex pharmaceutical problems using principles of science, mathematics, and pharmaceutical technology.
4.	PO 4: Modern Tool Usage	Use modern instruments, computational tools, software, and digital resources for pharmaceutical development and analysis.
5.	PO 5: Leadership and Teamwork	Function effectively as an individual and as a member or leader in diverse teams and multidisciplinary settings.
6.	PO 6: Communication	Communicate effectively with the pharmacy and healthcare community, patients, and society at large through oral and written means, including documentation and report.
7.	PO 7: Professional Identity	Understand, analyze, and follow ethical responsibilities and legal aspects of the pharmacy profession, promoting the image and identity of the pharmacist.
8.	PO 8: Pharmaceutical Ethics	Apply ethical principles and commit to professional responsibilities in pharmaceutical practices and research.

9.	PO 9: Pharmacist and Society	Understand the impact of pharmaceutical solutions in societal, health, legal, and environmental contexts and demonstrate knowledge of and need for sustainable development.
10.	PO 10: Lifelong Learning	Recognize the need for and engage in lifelong learning independently to keep pace with scientific and technological advances.
11.	PO 11: Environmental Sustainability	Understand the impact of professional pharmacy solutions and society and environmental context and demonstrate the need for knowledge and sustainable development.

COLLEGE	**Pushpagiri College of Pharmacy**
COURSE	**Pharm D**

Sl No:	PO	DESCRIPTION
1.	PO 1: Pharmacy & Biomedical Knowledge	Graduates will demonstrate comprehensive knowledge of basic pharmaceutical sciences (pharmaceutics, medicinal chemistry, pharmacognosy), biomedical sciences (anatomy, physiology, biochemistry, pathology) and applied clinical sciences essential for pharmacy practice.
2.	PO 2: Clinical Therapeutics & Patient Care	Apply evidence-based therapeutic principles from pharmacology, pharmacotherapeutics, clinical pharmacy, and hospital pharmacy to optimize medication use and improve patient health outcomes.
3.	PO 3: Medication Therapy Management	Assess and manage pharmacotherapy by evaluating clinical data, drug interactions, dosage regimens, and patient responses while promoting safety and efficacy in individualized patient care.
4.	PO 4: Clinical Research & Biostatistics Application	Conduct, analyze, interpret, and communicate research findings by applying biostatistics, research methodology, and ethical principles to support evidence-based practice and contribute to clinical research initiatives.

5.	PO 5: Hospital & Community Pharmacy Practice	Demonstrate competencies in hospital pharmacy operations, drug distribution systems, formulary management and community pharmacy services that improve healthcare delivery and rational drug use.
6.	PO 6: Biopharmaceutics & Pharmacokinetics Integration	Utilize principles of biopharmaceutics and pharmacokinetics for rational drug dosing, therapeutic drug monitoring and adjustment of regimens in special populations (e.g., renal/hepatic impairment).
7.	PO 7: Clinical Decision-Making & Critical Thinking	Synthesize clinical knowledge with patient data to solve complex therapeutic problems, make clinical decisions, and design individualized care plans in cooperation with patients and healthcare teams.
8.	PO 8: Communication & Interprofessional Collaboration	Communicate effectively with patients, caregivers and multidisciplinary healthcare professionals to ensure clear understanding of medication regimens, treatment plans, and promote health literacy.
9.	PO 9: Ethical, Legal & Professional Practice	Uphold legal and ethical standards in pharmacy practice, ensuring compliance with professional regulations, patient confidentiality, informed consent and ethical conduct in clinical and research settings.
10.	PO 10: Public Health, Pharmacoepidemiology & Pharmacoeconomics	Apply principles of pharmacoepidemiology, pharmacoeconomics, public health awareness and preventive healthcare in planning community health programs and optimizing resource utilization.
11.	PO 11: Lifelong Learning & Leadership	Recognize the need for continuous self-directed learning to stay current with advances in clinical pharmacy, therapeutics, healthcare technologies and to exercise leadership and ethical professional behaviour in diverse practice environments.

COLLEGE	Pushpagiri College of Pharmacy
COURSE	Pharm D (PB)

Sl No:	PO	DESCRIPTION
1.	PO 1: Clinical Pharmaceutical Knowledge	Apply comprehensive and integrated knowledge of pharmaceutical sciences, clinical therapeutics, pharmacology, disease states, and pharmacy practice to deliver safe and effective patient care.
2.	PO 2: Pharmaceutical Care & Patient Safety	Assess, monitor, identify and resolve medication-related problems to optimize therapeutic outcomes and promote patient safety in a hospital and community setting
3.	PO 3: Evidence-based Practice	Critically analyze clinical literature and research data to apply evidence-based practice in medication therapy management and rational drug use.
4.	PO 4: Clinical Decision Making	Use clinical reasoning, judgment, and problem-solving skills to evaluate patient information, laboratory data and develop individualized treatment plans
5.	PO 5: Communication & Interpro-fessional Collaboration	Communicate effectively with patients, caregivers, and the healthcare team, including accurate documentation and counseling, fostering multidisciplinary collaboration
6.	PO 6: Medication Therapy Management	Provide comprehensive medication therapy management (MTM), including patient assessment, dose adjustment, and monitoring of therapeutic outcomes.
7.	PO 7: Regulatory and Ethical Practice	Demonstrate professional, ethical, and legal behavior in pharmacy practice, adhering to regulatory requirements, ethical principles, and patient confidentiality

8.	PO 8: Public Health & Health Promotion	Participate in public health initiatives, disease prevention programs and health education to improve population-level health outcomes
9.	PO 9: Information and Technology Utilization	Apply information technology tools, pharmacy software, and digital resources for patient care, drug information retrieval and practice management
10.	PO 10: Life-Long Learning & Professional Development	Recognize the need for continuous learning to update professional knowledge and skills through self-directed study, research, and professional engagement
11.	PO 11: Leadership and Practice Management	Demonstrate leadership, planning, organization, and management skills in various professional pharmacy practice environments including clinical research, regulatory affairs, and pharmacy services.

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COURSE OUTCOME: B PHARM

COLLEGE	**Pushpagiri College of Pharmacy**
COURSE	**B Pharm**
BATCH	**2025-2026**

SEMESTER I		**SUB: Human Anatomy & Physiology-I Theory**	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP.101 T	Describe the structure and functions of various systems of the human body, cellular organization, and tissue levels.	Remember(L1), Understand (L2), Apply(L3)
2	CO2:BP.101 T	Explain the integumentary, skeletal system, joints, and their disorders	Understand (L2)
3	CO3:BP.101 T	Demonstrate knowledge of body uids, blood, and the lymphatic system.	Analyze (L4)
4	CO4:BP.101 T	Correlate various organ physiology and nervous system control; understand special senses.	Understand (L2)
5	CO5:BP.101 T	Understand the cardio-vascular system and its regulation.	Understand (L2)

SEMESTER I		SUB: Pharmaceutical Analysis-I Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.102 T	Explain the different technique of analysis and methods for expressing concentration. Basic principles and significance of errors in pharmaceutical analysis.	Remember (L1) Understand (L2)
2.	CO2:BP.102 T	Describe and classify volumetric analytical methods such as acid-base and non-aqueous methods	Understand (L2) Apply (L3)
3.	CO3:BP.102 T	Apply concepts of precipitation, complexometry and gravimetric titrations.	Understand (L2) Analyze (L4)
4.	CO4:BP.102 T	Determine the concentration of analyte using redox titration methods	Remember(L1) Understand(L2) Apply(L4)
5.	CO5:BP.102 T	Explain the concepts of electrochemicalmethods including potentiometry, conductometry, and polarography, and discuss their applications in pharmaceutical analysis.	Remember (L1) Understand (L2)

SEMESTER I		SUB: Pharmaceutics- I-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.103 T	Explain the history and development of the pharmacy profession in India, along with the features of major pharmacopoeias (IP, BP, USP and Extra Pharmacopoeia). Understand the classification and principles of conventional dosage forms. Describe the parts of a prescription, proper handling, posology, and perform dosage calculations—including pediatric dosing.	Remember(L1)/ Understand(L2)/ Apply(L3)
2.	CO2: BP.103T	Apply various pharmaceutical calculations (e.g. Imperial & Metric system) required in dosage formulation and compounding. Understand the classification, requirements and methods for formulating powders. Learn the excipients used in liquid dosage forms and about Solubility enhancement techniques.	Apply(L3)/ Understand (L2)/ Remember (L1)
3.	CO3:BP.103 T	Understand the requirements and methods for formulating both monophasic and biphasic (Suspension & Emulsions) liquid dosage forms.	Understand(L2) / Analyze(L4)

4.	CO4:BP.103T	Learn the basic formulation and evaluation of suppositories. Explain types of pharmaceutical incompatibilities and strategies to manage them during formulation	Remember(L1) / Understand(L2) / Apply(L3)
5.	CO5:BP.103T	Learn the basic formulation and evaluation of semisolid dosage forms like creams, ointments, gels, including transdermal penetration mechanisms and influencing factors.	Remember(L1) / Understand (L2)

SEMESTER I		SUB: Pharmaceutical Inorganic Chemistry - Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP104T	Concept and role of pharmacopoeias, identify pharmaceutical impurities, and explain their control methods.	Remember(L1), Understand(L2)
2.	CO2: BP104T	The principles of buffers, electrolytes, NaCl equivalence, freezing point depression, and their pharmaceutical relevance	Understand(L2), Apply(L3)
3.	CO3: BP104T	The composition and therapeutic use of dental products and gastrointestinal agents, along with their mechanisms of action.	Apply(L3), Analyze(L4)
4.	CO4: BP104T	The properties, functions, and mechanisms of action of inorganic drugs such as expectorants, emetics, haematinics, antidotes, and astringents.	Understand(L1), Analyze(L4)
5.	CO5: BP104T	The principles, types, and pharmaceutical applications of radiopharmaceuticals	Apply(L3), Evaluate(L5)

SEMESTER I		SUB: Communication Skill - Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP105T	Describe the fundamentals of communication, including communication process, importance, and barriers affecting communication.	Remember(L1) Understand(L2)
2.	CO2: BP105T	Explain different perspectives in communication and factors such as perception, language, past experiences, and environment.	Understand(L2)
3.	CO3: BP105T	Apply elements of communication including verbal, non-verbal, tone of voice, and communication styles in real-life situations.	Apply(L3)
4.	CO4: BP105T	Demonstrate effective listening skills and develop structured written communication for formal and informal contexts.	Apply(L3), Analyze(L4)
5.	CO5: BP105T	Develop interview skills, presentation techniques, and effective participation in group discussions.	Developing (L5)

SEMESTER I		SUB: Remedial Biology- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP106T	Explain the characteristics of living organisms, classification, binomial nomenclature, and morphology & anatomy of flowering plants.	L1, L2

2	CO2: BP106T	Describe the composition and functions of blood, lymph, circulatory system, digestion, and respiration in humans.	L2
3	CO3: BP106T	Analyze excretory system, nervous system, endocrine regulation, and human reproductive processes.	L3, L4
4	CO4: BP106T	Analyze plant nutrition, nitrogen cycle, and factors affecting photosynthesis..	L3, L4
5	CO5: BP106T	Describe and analyze plant growth, cell structure, cell division, and tissue organization.	L2, L3, L4

SEMESTER I		SUB: Remedial Mathematics- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP.107 T	Define mathematical terms like "Characteristic" and "Mantissa" in logarithms.	L1
2	CO2:BP.107 T	Describe the theory of Partial Fractions and their role in Chemical Kinetics.	L2
3	CO3:BP.107 T	Use the Cramer's rule or Matrix method to solve systems of linear equations in pharmacy.	L3
4	CO4:BP.107 T	Analyze geometric representations and integrate them into complex pharmaceutical calculations.	L4
5	CO5:BP.107 T	Critically evaluate pharmacokinetic data using Laplace transforms for drug distribution models.	L5

SEMESTER I		SUB: Human Anatomy and Physiology 1 Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1:BP.108 P	Identify and describe the microscopic structure of epithelial, connective, muscular, and nervous tissues, and major bones of the human skeleton.	Knows / Knows How
2	CO2:BP.108 P	Demonstrate hematological techniques including hemocytometer use for counting RBCs and WBCs.	Shows How
3	CO3:BP.108 P	Perform and interpret basic blood investigations such as bleeding time, clotting time, hemoglobin estimation, blood grouping, and ESR	Shows How
4	CO4:BP.108 P	Measure, record, and interpret vital physiological parameters including heart rate, pulse rate, and blood pressure	Shows How/ Does
5	CO5:BP.108 P	Integrate practical laboratory skills with theoretical knowledge to correlate experimental findings with normal physiological functions.	Shows How/ Does

SEMESTER I		SUB: Pharmaceutical Analysis-I Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.109 P	Carry out the impurity determination using limit test	Know's How Show's How
2.	CO2:BP.109 P	Preparation of analytical solutions	Show's How

3.	CO3:BP.109 P	Standardization of solutions and determining the normality	Show's How
4.	CO4:BP.109 P	Perform and Calculate percentage purity of some compounds (Assay)	Show's How
5.	CO5:BP.108 P	Normality determination using electroanalytical methods	Show's How

SEMESTER I		SUB: Pharmaceutics-I Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.1010P	Prepare Effervescent Granules, Dusting powder, ORS powder, Divided powders.	Knows/ Shows How
2.	CO2:BP.1010P	Prepare monophasic liquid dosage forms (Syrups, Elixirs, Linctus, Throat paint, Solutions, Gargles, Mouthwashes) for internal use.	Knows/ Shows How
3.	CO3:BP.1010P	Prepare Biphasic liquid dosage forms (Suspension and Emulsion) for internal & external use.	Knows/ Shows How
4.	CO4:BP.1010P	Prepare Suppositories by Fusion method.	Knows How/ Shows How
5.	CO5:BP.1010P	Prepare Ointment by Trituration, Fusion and Chemical reaction methods.	Knows How/ Show's How

SEMESTER I		SUB: Pharmaceutical Inorganic Chemistry - Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.111 P	Find impurites present in pharmaceutial compounds	Knows How

2.	CO2: BP.1101P	Demonstrate the limit tests for impurities like chlorides, sulphates, iron, and heavy metals as per IP.	Shows How
3.	CO3: BP.111P	Prepare official inorganic pharmaceutical compounds and evaluate their purity by appropriate methods..	Shows How
4.	CO4: BP.111 P	Perform identification tests for cations and anions in inorganic salts using qualitative analysis techniques	Knows How
5.	CO5: BP.111 P	Record and interpret experimental data accurately and maintain laboratory notebooks as per scientific standards.	Does

SEMESTER I		SUB: Communication Skill - Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.112 P	Recall the fundamental concepts of ommunication, including types, barriers, and principles relevant to pharmacy practice.	Knows
2.	CO2: BP.112 P	Explain and illustrate the application of communication techniques in patient counseling and professional interactions.	Knows How
3.	CO3: BP.112 P	Demonstrate effective verbal and non-verbal communication skills through role plays, presentations, and group discussions.	Shows How
4.	CO4: BP.112 P	Perform patient counseling and healthcare communication scenarios using appropriate language, empathy, and clarity.	Shows How

5.	CO5: BP.112 P	Exhibit professional communication skills consistently in simulated or real-life healthcare settings, ensuring patient-centered care.	Does

SEMESTER I		SUB: Remedial Biology- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1: BP.113 P	Identify and demonstrate the use of microscope, section cutting, mounting, staining, and permanent slide preparation techniques.	Knows How / Shows How
2	CO2: BP.113 P	Identify and describe cell structures, inclusions, and microscopic tissues of stem, root, leaf, seed, fruit, and flower.	Knows / Knows How
3	CO3: BP.113 P	Identify and describe the morphology and modifications of stem, root, and leaf.	Knows / Knows How
4	CO4: BP.113 P	Demonstrate understanding of frog anatomy using computer-based models	Knows How
5	CO5: BP.113 P	Identify human bones and perform basic physiological measurements such as blood grouping, blood pressure, and tidal volume.	Shows How

SEMESTER II		SUB: Human Anatomy & Physiology –II (Theory)	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP 201T	Explain the structure and functions of the nervous system and central nervous system	Remember (L1) Understand(L2) Apply (L3)

2.	CO2: BP 201T	Describe the anatomy & physiology of the digestive system and energetics	Understand(L2) Apply (L3) Analyze (L4)
3	CO3: BP 201T	Explain the functions of the respiratory & urinary systems and associated disorders	Understand(L2) Apply (L3) Analyze (L4)
4.	CO4: BP 201T	Understand the endocrine system and the mechanism of hormone action	Remember(L1) Understand(L2) Apply (L3)
5.	CO5: BP 201T	Describe the reproductive system & basics of genetics	Understand(L2) Apply (L3) Analyze (L4)

SEMESTER II		SUB: Pharmaceutical Organic Chemistry I- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.202 T	Recall and explain the classification, structure, and nomenclature of organic compounds based on IUPAC rules.	Remember(L1), Understand (L2)
2.	CO2: BP.202 T	Describe and interpret fundamental organic reaction mechanisms, including halogenation, nitration, sulphonation, and Friedel-Crafts reactions	Understand (L2), Apply (L3)
3.	CO3:BP.202 T	Apply the concepts of electronic effects, resonance, and inductive effects to predict the reactivity and stability of organic compounds	Apply(L3), Analyze(L4)
4.	CO4:BP.202 T	Differentiate between types of isomerism and determine stereochemistry in simple organic molecules	Understand(L2), Analyze (L4)
5.	CO5:BP.202 T	Perform basic qualitative tests to identify functional groups and understand their chemical behavior in laboratory experiments	Apply(L3), Evaluate(L5)

SEMESTER II		SUB: Biochemistry-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1	Understand classification, chemical nature, biological roles, and metabolism of biomolecules (carbohydrates, lipids, proteins, amino acids, nucleic acids)	L2
2	CO2	Explain bioenergetics and biological oxidation pathways (e.g., glycolysis, Krebs cycle, oxidative phosphorylation)	L2
3	CO3	Comprehend the genetic organization of mammalian genome and functions of DNA in transcription and translation	L2
4	CO4	Understand catalytic roles of enzymes and the importance of enzyme inhibition for drug design, diagnostics, and therapeutic use	L3
5	CO5	Summarize metabolism of nutrients in physiological vs pathological states	L4

SEMESTER II		SUB: Pathophysiology-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.204 T	Describe the etiology, pathogenesis, and morphological features of cell injury, adaptation Analyze the mechanisms underlying inflammatory processes, wound healing and repair, atherosclerosis.	Remembering (Level 1) & Understanding (Level 2)

2.	CO2:BP. 204 T	Explain clinical signs, symptoms, and complications associated with diseases affecting cardiovascular, respiratory, renal, hematological, endocrine, gastrointestinal, musculoskeletal, nervous, and psychiatric systems	Understanding (Level 2)
3.	CO3:BP. 204 T	Apply pathophysiological principles to interpret the systemic manifestations of conditions like hypertension, asthma, diabetes mellitus, anemia, peptic ulcer.	Applying (Level 3)
4.	CO4:BP. 204 T	Integrate knowledge of systemic pathophysiology to predict disease progression in complex or co- morbid conditions like rheumatoid arthritis, dementia, infectious disease and oncogenesis.	Analyzing (Level 4)
5.	CO5:BP. 204 T	Apply pathophysiological principles to interpret the systemic manifestations of conditions like Meningitis, Typhoid, Leprosy, Tuberculosis Urinary tract infections, AIDS, Syphilis, Gonorrhea	Applying (Level 3)

SEMESTER II		**SUB: Computer Applications in Pharmacy – Theory**	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.205 T	Describe the basics of computer and their components	Remember (L1)
2.	CO2:BP.205 T	Apply MS Office tools for documentation, data management and presentations	Apply (L3)
3.	CO3:BP.205 T	Utilize software for drug information retrieval and patient data management	Apply (L3)

4.	CO4:BP.205 T	Explain the importance of databases and networking in pharmacy	Understand(L2)
5.	CO5:BP.205 T	Demonstrate the use of software in pharmacy practice (e.g., billing, inventory)	Apply (L3)

SEMESTER II		SUB: Environmental Sciences-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.206T	Understand the importance of environmental studies and the need for sustainable development in relation to human health and pharmaceutical practice.	Level 2
2.	CO2:BP. 206T	Explain key environmental concepts such as ecosystems, biodiversity, and natural resource management, relevant to the pharmaceutical industry	Level 2
3.	CO3:BP. 206T	Analyze various types of environmental pollution (air, water, soil, noise, radioactive), their causes, effects, and preventive measures, with emphasis on pharmaceutical waste.	Level 4
4.	CO4:BP.206T	Describe environmental laws and regulations related to pollution control, waste management (including biomedical and pharmaceutical waste), and environmental protection in India.	Level 1 & 2
5.	CO5:BP.206T	Apply principles of environmental ethics and sustainable development in pharmaceutical practice, including green chemistry and eco-friendly manufacturing	Level 3

SEMESTER II		SUB: Human Anatomy & Physiology –II (Practical)	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.208 P	Perform purification techniques such as recrystallization and distillation of organic compounds.	Shows how
2.	CO2: BP.208 P	Identify and detect functional groups in organic compounds using qualitative chemical tests.	Shows how
3.	CO3: BP.208 P	Understand and carry out the reactions like nitration, halogenation, and hydrolysis of organic compounds.	Knows how
4.	CO4: BP.208 P	Record and interpret experimental data accurately and maintain laboratory notebooks as per scientific standards.	Does
5.	CO5: BP.208 P	Demonstrate safe handling of chemicals and follow ethical and environmental practices in laboratory settings.	Shows how

SEMESTER II		SUB: Pharmaceutical Organic Chemistry I- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.208 P	Perform purification techniques such as recrystallization and distillation of organic compounds.	Shows how
2.	CO2: BP.208 P	Identify and detect functional groups in organic compounds using qualitative chemical tests.	Shows how

3.	CO3: BP.208 P	Understand and carry out the reactions like nitration, halogenation, and hydrolysis of organic compounds.	Knows how
4.	CO4: BP.208 P	Record and interpret experimental data accurately and maintain laboratory notebooks as per scientific standards.	Does
5.	CO5: BP.208 P	Demonstrate safe handling of chemicals and follow ethical and environmental practices in laboratory settings.	Shows how

SEMESTER II		SUB: Biochemistry- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.209P	Demonstrate the preparation and handling of laboratory reagents and solutions used in biochemical experiments.	Does
2.	CO2:BP.209P	Estimate the abnormal constituents in urine samples.	Shows How
3.	CO3:BP.209P	Perform quantitative and qualitative analysis of biomolecules (glucose, urea, creatinine, etc.) in biological uids.	Shows How
4.	CO4:BP.209P	Interpret the biochemical significance of test results in clinical scenarios and correlate the practical findings with theoretical knowledge for better understanding of biochemical processes.	Shows How
5.	CO5:BP.209P	Follow safe laboratory practices, maintain proper records and demonstrate professionalism in lab settings.	Does

SEMESTER II		SUB: Computer Applications in Pharmacy – Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.210 P	Operate MS Word to create, format, and edit pharmacy-related documents	Knows how
2.	CO2:BP. 210 P	Create Web Pages using HTML	Does
3.	CO3:BP. 210 P	Retrieve and interpret drug information using online databases andsearchengines	Shows how
4.	CO4:BP. 210 P	Explaintheimportanceof databases	Knows how
5.	CO5: BP. 210P	Networking in pharmacy	Shows how

SEMESTER III		SUB: Pharmaceutical Organic Chemistry II- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.301 T	Understand and Recall the chemistry and reactivityofBenzene.	Remember(L1), Understand (L2)
2.	CO2: BP.301 T	Explain the classification, reactivity, synthesis, reactions and qualitative test for phenols and aromatic amines	Understand (L2), Apply (L3)
3.	CO3: BP.301 T	Detailed study on Fats and oils.	Apply(L3), Analyze(L4)
4.	CO4: BP.301 T	Describe the reactivity, stability and uses of Polynuclear compounds.	Understand(L2), Analyze (L4)
5.	CO5: BP.301 T	Describe the reactivity and stability of Cycloalkanes.	Apply(L3), Evaluate(L5)

SEMESTER III		SUB: Physical Pharmaceutics –I (Theory)	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP302T	Explain the principles of solubility and the factors affecting drug solubility in various solvents and biological systems.	Understand (level 2)
2.	CO2:BP302T	Describe the different states of matter, phase transitions, and evaluate key physicochemical properties of drug molecules.	Analyze (Level 4)
3.	CO3:BP302T	Apply micromeritics concepts to determine particle size, surface area, porosity, and flow properties relevant to dosage form design.	Apply (Level 3)
4.	CO4:BP302T	Understand drug-complex formation, protein binding, and their impact on drug stability and pharmacological action.	Understand (Level 2)
5.	CO5:BP302T	Demonstrate the role of pH, buffers, and isotonic solutions in pharmaceutical formulation and biological compatibility.	Apply (Level 3)

SEMESTER III		SUB: Pharmaceutical Engineering -Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP304T	Explain and classify fundamental concepts of pharmaceutical unit operations such as size reduction, size separation, and mixing techniques	Level2(Understand), Level 4 (Analyze)
2	CO2:BP304T	Apply and analyze principles of fluid flow in pharmaceutical processes	Level3(Apply), Level 4 (Analyze)

3	CO3:BP304T	Apply and interpret heat transfer operations including evaporation, distillation, and drying processes	Level3(Apply), Level 4 (Analyze)
4	CO4:BP304T	Apply principles and compare methods of filtration and centrifugation	Level3(Apply), Level 4 (Analyze)
5	CO5:BP304T	Understand materials of pharmaceutical plant construction, corrosion and its prevention, and material handling systems used in pharmaceutical industries.	Level2(Understand), Level 4 (Analyze)

SEMESTER III		SUB: Pharmaceutical Organic Chemistry II- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.305 P	Perform purification techniques such as recrystallization and distillation of organic compounds.	Shows how
2.	CO2: BP.305 P	Understand and carry out the reactions like nitration, halogenation, and hydrolysis of organic compounds.	Shows how
3.	CO3: BP.305 P	Preparation of various organic compounds.	Knows how
4.	CO4: BP.305 P	Standardization of reagents used in the determination of various oil values.	Does
5.	CO5: BP.305 P	Estimation of various analytical constants of fats and oils.	Shows how

SEMESTER III		SUB: Physical Pharmaceutics –I (Practical)	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP 306P	Determine the solubility and evaluate the partition coefficient in multi-solvent systems.	Knows How

2.	CO2:BP 306P	Analyze particle size, size distribution, and micromeritic properties using sieving and microscopy techniques.	Shows How
3.	CO3:BP 306P	Evaluate powder characteristics such as bulk density, true density, porosity, and angle of repose relevant to preformulation.	Shows How
4.	CO4:BP 306P	Determine the percentage composition and understand the effect of electrolytes on mutual solubility.	Knows How
5.	CO5:BP 306P	Determine the pKa of pharmaceutical substances using appropriate analytical methods.	Shows How

SEMESTER III		SUB: Pharmaceutical Microbiology– Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.305 P	Perform purification techniques such as recrystallization and distillation of organic compounds.	Shows how
2.	CO2: BP.305 P	Understand and carry out the reactions like nitration, halogenation, and hydrolysis of organic compounds.	Shows how
3.	CO3: BP.305 P	Preparation of various organic compounds.	Knows how
4.	CO4: BP.305 P	Standardization of reagents used in the determination of various oil values.	Does
5.	CO5: BP.305 P	Estimation of various analytical constants of fats and oils.	Shows how

SEMESTER III		SUB: Pharmaceutical Engineering- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.308 P	Analyze the effect of process variables on filtration and evaporation operations	Shows How
2.	CO2: BP.308 P	Perform particle size determination using sieve analysis and sedimentation methods	Shows How / Does
3.	CO3: BP.308 P	Construct drying rate curves and evaluate drying and size-reduction processes	Shows How
4.	CO4: BP.308 P	Explain the working principles and operational features of pharmaceutical equipment	Knows How
5.	CO5: BP.308 P	Measure and interpret humidity, moisture content, and loss on drying using standard methods	Shows How / Does

SEMESTER IV		SUB: Pharmaceutical Organic Chemistry III-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.401 T	Principles of stereoisomerism, optical activity, DL & RS nomenclature	Understand(L2), Apply (L3)
2.	CO2:BP.401 T	Enantiomers, diastereomers, racemates, resolution, asymmetric synthesis	Analyze (L4)
3.	CO3:BP.401 T	Five-membered heterocycles (pyrrole, furan, thiophene) – synthesis, reactions & uses.	Understand(L2), Apply (L3)

4.	CO4:BP.401 T	Six-membered & fused heterocycles and medicinal relevance	Understand(L2), Analyze (L4)
5.	CO5:BP.401 T	Reactions of synthetic importance in pharmaceutical chemistry	Apply(L3), Analyze (L4)

SEMESTER IV		SUB: Medicinal Chemistry- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.402 T	Understand the various physicochemical properties and study of phase I and phase II reactions.	Apply(L3)
2.	CO2:BP.402 T	Identify the structure, IUPAC and stereochemistry of drugs belonging to ANS, CNS and analgesics.	Understand (L1)
3.	CO3:BP.402 T	Describe the MOA and uses of drugs belonging to ANS, CNS and analgesics.	Remember (L2)
4.	CO4:BP.402 T	Discuss the SAR of drugs belonging to ANS, CNS and analgesics.	Understand(L1)
5.	CO5:BP.402 T	Outline the synthesis and chemical reaction of drugs belonging to ANS, CNS and analgesics.	Create (L6)

SEMESTER IV		SUB: Physical Pharmaceutics II -Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.403 T	Know the principles of chemical kinetics and to use them in assigning expiry date of formulation.	Understand(L1)/ Apply (L3)
2.	CO2:BP.403 T	Apply rheological principles in evaluating pharmaceutical formulations	Apply(L3)

3.	CO3:BP.403 T	Learn the formulation concepts of pharmaceutical suspensions and emulsions and their stability problems	Understand(L1) / Apply(L3)
4.	CO4:BP.403 T	Analyze the behavior of colloidal systems and surfactants in drug delivery systems	Analyze(L4)
5.	CO5:BP.403 T	Acquire skills and working knowledge of the principles and concepts of surface tension and its measurement	Understand(L1)/ Apply(L3)

SEMESTER IV		SUB: Pharmacology -I -Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.404 T	Understand the general pharmacological principles including drug absorption, distribution, metabolism, and excretion (ADME).	Understand(L1)
2.	CO2:BP.404 T	Explain pharmacodynamics including drug-receptor interactions and dose-response relationships.	Understand(L1)
3.	CO3:BP.404 T	Describe autonomic pharmacology including drugs acting on the autonomic nervous system.	Apply(L3)
4.	CO4:BP.404 T	Understand the pharmacology of drugs affecting the cardiovascular system.	Understand (L1), Apply(L3)
5.	CO5:BP.404 T	Comprehend mechanisms, clinical uses, and side effects of major drug classes covered in the course.	Understand(L1)

SEMESTER IV		SUB: Pharmacognosy & Phytochemistry I- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.405 T	Understand the fundamental principles and scope of Pharmacognosy and Phytochemistry. Evaluate the adulteration and quality control measures of herbal drugs.	Understand/ Evaluate
2.	CO2: BP.405 T	Explain the cultivation, collection, processing, and storage of medicinal plants and factors influencing their quality. Discuss the conservation of rare medicinal plants.	Understand
3.	CO3:BP.405 T	Understand the basic principles and techniques of plant tissue culture. Describe various types of plant tissue culture methods. Apply plant tissue culture in pharmaceutical and medicinal plant propagation.	Understand /Apply
4.	CO4:BP.405 T	Illustrate the fundamentals and significance of Traditional Systems of Medicine (Ayurveda, Siddha, Unani, Homeopathy, etc.). Interpret the role of secondary metabolites (alkaloids, glycosides, tannins, terpenoids, etc.) in pharmacological activities and quality assessment.	Remember/ Understand
5.	CO5:BP.405 T	Explain about various drugs from natural sources. Explain about primary metabolites and chemical tests on selected crude drugs.	Apply / Analyze

SEMESTER IV		SUB: Medicinal Chemistry-Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.406P	Assay of various preparations to identify the percentage purity and determination of normality of secondary solutions.	Does
2.	CO2:BP.406P	Preparation of various drugs and intermediates	Shows how
3.	CO3:BP.406P	Monitoring of various reactions using melting point determination and chromatography techniques	Does
4.	CO4:BP.406P	Apply various techniques of purification like recrystallization.	Does
5.	BP.406P	Estimation of various physicochemical properties like partition co-efficient, Ionization constant.	Shows how

SEMESTER IV		SUB: Physical Pharmaceutics II- Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:BP.407P	Determine first and second order reaction rate constants and perform accelerated stability studies to assess formulation integrity over time.	Shows how
2.	CO2:BP.407P	Conduct sedimentation studies, including evaluating the effect of different suspending agents and their concentrations on suspension stability.	Shows how

3.	CO3:BP.407P	Measure the viscosity of liquids using ostwald's viscometer and assess the viscosity of semisolid preparations via Brookfield viscometer.	Shows how
4.	CO4:BP.407P	Accurately determine surface tension using both drop count and drop weight method.	Shows how
5.	CO5:BP.407P	Determine HLB value and critical micellar concentration of surfactants	Shows how

SEMESTER IV		SUB: Pharmacology -I -Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	BP.408P	Describe the basic principles of pharmacokinetics and pharmacodynamics, including dose–response relationships and factors affecting drug action.	Knows
2.	BP.408P	Explain the mechanism of action, pharmacological effects, therapeutic uses, and adverse effects of drugs acting on the autonomic nervous system.	Knows How
3.	BP.408P	Apply pharmacological principles to analyze drug actions, interactions, and rational drug selection in conditions related to autonomic pharmacology.	Knows How
4.	BP.408P	Demonstrate experimental pharmacology techniques, interpret dose–response curves, and analyze results obtained from pharmacology practicals.	Shows How

5.	BP.408P	Practice ethical conduct, laboratory safety, and rational drug use, correlating pharmacological knowledge with clinical and community pharmacy practice.	Does

SEMESTER IV		SUB: Pharmacognosy & Phytochemistry I-Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP409 P	Identify and evaluate the morphological and microscopical characteristics of crude drugs of natural origin.	Shows How
2.	CO2:BP.409 P	Demonstrate the use of various chromatographic techniques (TLC, paper chromatography) for the identification and separation of phytoconstituents.	Shows How
3.	CO3:BP.409 P	Perform physical and chemical tests to detect adulteration and evaluate purity of crude drugs.	Shows How
4.	CO4:BP.409 P	Carry out extraction, isolation, and preliminary phytochemical screening of natural products.	Shows How

5.	CO5:BP.409 P	Maintain laboratory records, follow safety practices, and apply good laboratory practices in practical experiments.	Does

SEMESTER V		SUB: Medicinal Chemistry II Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP.501 T	Classification, mechanism of action and therapeutic applications of antihistaminic agents (H1 and H2 antagonists) and gastric proton pump inhibitors, with emphasis on receptor distribution and pharmacological relevance.	Apply (L3
2.	BP.501 T	Chemical class, mechanism of action and clin ical use of anti-neoplastic agents, including al kylating agents, antimetabolites, antibiotics, p lant products and miscellaneous agents.	Analyze (L4)
3.	BP.501 T	Mechanism of action, structure–activity relationships and therapeutic significance of cardiovascular drugs, including anti-anginal, diuretic, antihypertensive, anti-arrhythmic and anti-hyperlipidemic agents.	Analyze (L4)
4.	BP.501 T	Nomenclature, stereochemistry, metabolism and therapeutic uses of drugs acting on the endocrine system, including sex hormones, corticosteroids, thyroid drugs, oral contraceptives and drugs for erectile dysfunction.	Apply (L3)

5.	BP.501 T	Antidiabetic agents and local anesthetics- correlate mechanism of action and structure–activity relationships with their pharmacological effects and clinical use.	Analyze (L4)

SEMESTER V		SUB: Formulative Pharmacy Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP 502 T	Explain the principles of pharmaceutical formulation and the role of excipients in the development of dosage forms.	Understand (L2)
2.	BP 502 T	Describe and apply pre-formulation studies in cluding physicochemical properties of drugs r equired for formulation design.	Apply (L5)
3.	BP 502 T	Formulate and evaluate solid dosage forms such as tablets and capsules using appropriate techniques.	Evaluate (L3)
4.	BP 502 T	Formulate and evaluate liquid dosage forms including solutions, suspensions, and emulsions.	Evaluate (L3)
5.	BP 502 T	Understand and apply quality control tests, stability studies, and packaging requirements for various pharmaceutical dosage forms.	Apply (L5)

SEMESTER V		SUB: Pharmacology II Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP503 T	Describe the basic principles of hemodynamics, electrophysiology of heart, blood physiology, autacoids, endocrine pharmacology and bioassay.	Understand (L2)
2.	BP503 T	Explain the classification, mechanism of acti on, pharmacological effects, therapeutic uses, adverse effects and contraindications of drugs acting on: Cardiovascular system, Blood and blood-forming organs, Urinary system, Autac oids, Endocrine system.	Understand (L2)
3.	BP503 T	Apply pharmacological knowledge to: Selection of appropriate drugs for cardiovascular, blood, endocrine and inflammatory disorders, Clinical management of conditions like hypertension, shock, diabetes, gout, rheumatic diseases. Management of drug poisoning (aspirin and paracetamol).	Apply (L3)
4.	BP503 T	Analyze and differentiate various drug classes based on: Mechanism of action, Therapeutic relevance Drug interactions, Clinical advantages and limitations.	Analyze (L4)

5.	BP503 T	Demonstrate and evaluate the principles, procedures and applications of bioassay, including: Types of bioassays, Bioassay of insulin, oxytocin, vasopressin, ACTH, digitalis, histamine, heparin, vaccines and antitoxins	Evaluate (L5)

SEMESTER V		SUB: Pharmacognosy & Phytochemistry II Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP504 T	Understand metabolic pathways in higher plants responsible for the formation of secondary metabolites.	Understand (L 2)
2.	BP504 T	Know the biological source, chemical constit uents, and uses of important secondary metab olites.	Remember (L 1)
3.	BP504 T	Apply extraction, isolation, and identification methods for phytoconstituents.	Apply (L3)
4.	BP504 T	Demonstrate the use of modern analytical techniques such as spectroscopy, chromatography, and electrophoresis in phytochemistry.	Apply (L3)
5.	BP504 T	Explain the principles of industrial production, estimation, and utilization of important phytoconstituents.	Understand (L2)

SEMESTER V		SUB: Pharmaceutical Jurisprudence Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP 505 T	Explain and interpret the Drugs and Cosmetics Act, 1940 and Rules, 1945 related to import, manufacture, licensing, offences, and penalties.	Understand – Apply (L2–L3)
2.	BP 505 T	Apply regulatory provisions of Schedules (G, H, M, N, P, T, U, V, X, Y, F, DMR) for sale, labeling, packing, and administration of drug s.	Apply – Analyze (L3–L4)
3.	BP 505 T	Analyze the provisions of Pharmacy Act 1948, Medicinal & Toilet Preparations Act 1955, and NDPS Act 1985 for professional and industrial compliance.	Analyze (L4)
4.	BP 505 T	Evaluate legal and ethical regulations under Drugs & Magic Remedies Act, Prevention of Cruelty to Animals Act, and DPCO-2013 (NPPA, NLEM).	Evaluate (L5)
5.	BP 505 T	Understand the evolution of pharmaceutical legislations, professional ethics, IPR, MTP Act, and RTI Act in pharmacy practice.	Understand – Evaluate (L2–L5)

SEMESTER V		SUB: Formulative Pharmacy Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	BP 506 P	Prepare solid dosage forms such as tablets and capsules using appropriate formulation techniques.	Shows how
2.	BP 506 P	Formulate liquid dosage forms including syru ps, suspensions, and emulsions following stan dard procedures.	Shows how
3.	BP 506 P	Perform evaluation tests for formulated dosage forms such as weight variation, hardness, friability, disintegration, and dissolution.	Does
4.	BP 506 P	Apply pre-formulation and stability testing concepts during formulation and evaluation.	Knows how
5.	BP 506 P	Maintain proper documentation, lab safety practices, and GMP guidelines during pharmaceutical formulation experiments.	Does

SEMESTER V		SUB: Pharmacology II Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	BP507 P	Demonstrate the effects of drugs on isolated tissues and intact animal models such as frog oesophagus, frog heart, rabbit eye and intestine using standard experimental procedures.	Knows

2.	BP507 P	Perform and record the pharmacological actio ns of drugs on physiological parameters inclu ding: Ciliary motility, Blood pressure and hea rt rate, Diuretic activity, Hypoglycemic activi ty.	Knows how
3.	BP507 P	Analyze experimental data obtained from animal experiments to interpret drug actions, dose–response relationships and enzyme induction effects.	Shows how
4.	BP507 P	Evaluate drug responses and experimental outcomes in relation to: Mechanism of action, Therapeutic relevance Experimental limitations, Ethical considerations in animal experimentation.	Shows how
5.	BP507 P	Demonstrate and interpret various bioassay techniques (matching, bracketing, interpolation, three-point and four-point bioassays) using agonists like acetylcholine on isolated tissues.	Does

SEMESTER V		SUB: Pharmacognosy & Phytochemistry II Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	BP 508 P	Identify and explain crude drugs based on morphological, histological, and powder microscopic characteristics of selected medicinal plants.	Shows how
2.	BP 508 P	Perform isolation and detection of active prin ciples from natural sources using standard lab oratory procedures.	Shows how

3.	BP 508 P	Apply chromatographic techniques such as paper chromatography and TLC for separation and identification of sugars and herbal extracts.	Shows how
4.	BP 508 P	Carry out distillation of volatile oils and analyze phytoconstituents using TLC techniques.	Does
5.	BP 508 P	Evaluate crude drugs using chemical tests for identification, quality assessment, and detection of adulterants in Asafoetida, Benzoin, Colophony, Aloes, and Myrrh.	Does

SEMESTER VI		SUB: Medicinal Chemistry -III Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP 601 T	Classify and understand the structure activity relationship of different classes of antibiotics including lactams, aminoglycosides, tetracyclines	Remember(L1) Understand(L2)
2	CO2:BP 601 T	Identify the structure activity relationship of different classes of antibiotics including macrolides, prodrugs, antimalarials, quinolines, biguanides	Understand(L2) Apply (L3)
3	CO3:BP 601 T	Summarize the classification, chemistry, structure activity relationship of anti-tubercular agents, anti-viral agents and urinary tract anti- infective agents	Remember(L1), Understand (L2) Analyze(L4)

4	CO4:BP 601 T	Illustrate the classification, chemistry, structure activity relationship of anti-fungal agents, anti- protozoal agents, anthelmintics	Remember(L1) Understand(L2)
5	CO5:BP 601 T	Summarize the techniques to implement different computational techniques to calculate and visualise molecules and their activity properties quantitatively using acomputer aided tool for effective drug design and understand the concept ofcombinatorial chemistry	Understand(L2) Analyze(L4)

SEMESTER VI		SUB: Pharmacology III Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP602 T	Describe the general principles of chemotherapy including classification of chemotherapeutic agents, microbial resistance, and chemoprophylaxis.	Understand (L2)
2.	BP602 T	Explain the pharmacology of antibacterial drugs and urinary antiseptics with respect t o mechanism of action, uses, and adverse e ffects.	Understand (L2)
3.	BP602 T	Apply and analyze the therapeutic use of drugs employed in major infectious diseases.	Apply (L3)
4.	BP602 T	Analyze and evaluate the pharmacological management of UTIs, STDs, cancer, and immune-related disorders.	Analyze (L4)
5.	BP602 T	Evaluate advanced therapeutic approaches such as gene therapy and stem cell therapy and their applications in modern medicine.	Evaluate (L5)

SEMESTER VI		SUB: Herbal Drug Technology- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.603 T	To understand and describe the significance and scope of medicinal plants in cultivation, Good Agricultural Practices and processing	Remember(L1), Understand (L2)
2.	CO1:BP.603 T	To know various Traditional Systems of Medi cine, formulate, differentiate and standardize v arious traditional formulatons.	Remember(L1), Understand (L2), Apply (L3) Analyze(L4)
3.	CO1:BP.603 T	To know the importance of various nutraceuticals in Global market, various disease treatment and assess possible chemical and herbal drug interactions.	Understand (L2), Analyze(L4)
4.	CO1:BP.603 T	To know and develop herbal cosmetics, herbal excipients and herbal formulations.	Understand(L2), Apply (L3)
5.	CO1:BP.603 T	To understand WHO and ICH guidelines for assessment of Herbal drugs, wGMP, apply patenting aspects for herbal formulations, requirement of setting up Herbal Industries	Understand(L2), Apply(L3), Evaluate(L5)

SEMESTER VI		SUB: Biopharmaceutics and Pharmacokinetics- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP 604 T	Describe the fundamental principles of biopharmaceutics, describe drug absorption mechanisms and influencing factors, and analyze distribution processes including protein binding and its clinical implications.	Level 2(Understand) Level 4(Analyze)

2	CO2:BP 604 T	Describe drug metabolism and elimination processes, evaluate bioavailability and bioequivalence data, and apply dissolution and IVIVC principles for formulation assessment.	Level 2(Understand) Level 5(Evaluate) Level 3(Apply)
3	CO3:BP 604 T	Apply pharmacokinetic models to analyze drug concentration–time data, and calculate absorption and elimination rate constants.	Level 3(Apply)
4	CO4:BP 604 T	Interpret multi-compartment pharmacokinetic models and analyze multiple dosing regimens to optimize therapeutic drug administration.	Level 3(Apply) Level 4(Analyze)
5	CO5:BP 604 T	Analyze nonlinear pharmacokinetic behavior, identify causes, and evaluate parameters using Michaelis–Menten kinetics.	Level 4(Analyze) Level 5(Apply)

SEMESTER VI		SUB: Pharmaceutical Biotechnology Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP 605 T	Explain the principles of biotechnology and enzyme immobilization techniques in pharmaceutical industries.	Understand (Level 2)
2	CO2:BP 605 T	Illustrate cloning vectors, rDNA technology, PCR, and immunity types for pharmaceutical applications.	Apply (Level 3)
3	CO3:BP 605 T	Describe immune responses, MHC, monoclonal antibody production, and vaccine development methods.	Understand (Level 2)

4	CO4:BP 605 T	Analyze blotting techniques, microbial genetics, and biotransformation applications in biotechnology.	Analyze (level 4)
5	CO5:BP 605 T	Summarize mutation types, fermentation techniques, and large-scale production of industrial bioproducts.	Understand (Level 2)

SEMESTER VI		SUB: Quality Assurance-Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP606 T	Explain the concepts and principles of Quality Assurance (QA) and Quality Control (QC) including Good Manufacturing Practices (GMP) and Quality Management Systems. Describe the importance and implementation of regulatory guidelines and standards such as ICH Guidelines, ISO 9000, ISO 14000, and NABL accreditation in pharmaceutical industries.	Remember/ Understand
2.	CO2:BP606 T	Demonstrate knowledge of organization and personnel roles, facility design, sanitation, e quipment & raw material maintenance and Warehousing in ensuring product quality.	Understand / Apply
3.	CO3:BP606 T	Apply the principles of Good Laboratory Practices (GLP) and understand quality control tests for packaging materials, raw materials, and finished products.	Understand / Apply

4.	CO4:BP606 T	Manage and maintain quality documentation including Standard Operating Procedures (SOPs), Batch Manufacturing Records, Complaint handling, Recalls & waste disposal and audit reports.	Apply /Analyze
5.	CO5:BP606 T	Understand and apply the processes of calibration, validation and qualification of equipment.	Understand/ Apply

SEMESTER VI		SUB: Medicinal Chemistry -III Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1:BP 607 P	Demonstrate synthesis methods of a drug	Show's How
2	CO2:BP 607 P	Evaluate the quality and purity of synthetic drugs	Show's How
3	CO3:BP 607 P	Describe linear measurements for drugs using computational tools	Know's How
4	CO4:BP 607 P	Demonstrate the use of softwares for structure generation	Show'sHow
5	CO5:BP 607 P	Examine physicochemical and ADME properties of drugs	Know's How Show'sHow

SEMESTER VI		SUB: Pharmacology III Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	BP608 P	Demonstrate basic experimental skills and explain the principles involved in screening of drugs affecting allergic and gastric disorders.	Apply (L3)

2.	BP608 P	Perform and interpret experiments related to biochemical and neuromuscular pharmacology.	Apply (L3)
3.	BP608 P	Evaluate the effects of drugs on CNS and behavior using suitable experimental models.	Analyze (L4)
4.	BP608 P	Assess anti-inflammatory and analgesic activities of drugs using standard experimental models.	Evaluate (L5)
5.	BP608 P	Apply appropriate biostatistical tools to analyze, interpret, and validate experimental pharmacology data.	Evaluate (L5)

SEMESTER VI		SUB: Herbal Drug Technology - Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP.609 P	To evaluate herbal drugs for quality control parameters including physicochemical properties and preliminary phytochemical screening	Knows how Shows how
2.	CO2: BP.609 P	To prepare of herbal cosmetics	Knows how Shows how
3.	CO3: BP.609 P	To prepare and standardize of herbal formulations	Knows how Shows how
4.	CO4: BP.609 P	To perform monograph analysis of herbal drugs from recent Pharmacopoeiaa	Knows how Shows how
5.	CO5: BP.609 P	To perform the analysis of fixed oil	Knows how Shows how

SEMESTER VII		SUB: Instrumental Methods of Analysis- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP701T	Explain and interpret the principles of UV–Visible spectroscopy and fluorimetry, including electronic transitions, Beer–Lambert's law, spectral shifts, instrumentation, and pharmaceutical applications.	Understand(L2)/ Apply (L3)/ Analyze(L4)
2.	CO2: BP701T	Describe the principles, instrumentatio n, interferences, and applications of IR spectroscopy, flame photometry, atomi c absorption spectroscopy, and nephel oturbidometric methods.	Remember(L1) Understand (L2)
3.	CO3: BP701T	Apply the principles of adsorption, partition, paper, thin layer, and electrophoretic techniques for separation, identification, and qualitative analysis of pharmaceutical compounds.	Apply(L3)/ Understand (L2)
4.	CO4: BP701T	Analyze the methodology, instrumentation, and operational parameters of gas chromatography and high-performance liquid chromatography for pharmaceutical analysis.	Apply(L3)/ Understand (L2)
5.	CO5: BP701T	Evaluate the suitability of ion- exchange, gel filtration, and affinity chromatography techniques for the separation and purification of drugs and biomolecules.	Understand (L2)/ Analyze(L4)

SEMESTER VII		SUB: Industrial Pharmacy- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:BP 702 T	Explain pilot plant scale-up techniques and considerations for solids, liquids, semi- solids, and relevant pharmaceutical documentation.	Understand (L2)
2	CO2:BP 702 T	Describe technology transfer processes, including protocols, regulatory bodies, documentation, and commercialization practices.	Understand (L2)
3	CO3:BP 702 T	Understand regulatory affairs, drug approval processes, and the responsibilities of regulatory professionals in the pharmaceutical industry.	Understand (L2)
4	CO4:BP 702 T	Explain the Indian drug regulatory system, roles of CDSCO, CTD, COPP, and approval procedures for new drug applications.	Apply (L3)
5	CO5:BP 702 T	Identify industrial hazards and safety measures in pharmaceutical plants, including layout, fire, chemical, and mechanical safety	Apply (L3)

SEMESTER VII		SUB: Pharmacy Practice- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP703T	Unit I – Hospital & Hospital Pharmacy: Definition and classification of hospitals; hospital organizational structure; roles of medical and paramedical staff; hospital pharmacy organization, functions, layout, staffing; drug distribution systems and hospital formulary management.	Understand (L2)
2	CO2: BP703T	Unit II – Pharmacy & Therapeutics Committee and Clinical Pharmacy: Organization and functions of P&T committee; formulary policies; concepts of clinical pharmacy; medication history interview; drug therapy monitoring; therapeutic drug monitoring and medication adherence.	Understand(L2)/ Apply (L3)
3	CO3: BP703T	Unit III – ADRs, Drug Interactions & Patient Care: Classification, reporting and management of adverse drug reactions; pharmacokinetic and pharmacodynamic drug interactions; drug information services; patient counseling and communication skills with prescribers and patients.	Apply(L3)/Analy ze (L4)

4	CO4: BP703T	Unit IV – Rational Drug Use & Pharmacotherapeutics: Rational use of injections, antibiotics and OTC drugs; pharmacotherapy of diabetes, hypertension, CCF, MI, asthma, epilepsy, peptic ulcer, rheumatoid arthritis and tuberculosis; interpretation of clinical laboratory investigations.	Apply(L3)/Analy ze(L4)/ Evaluate (L5)
5	CO5: BP703T	Unit V – Community Pharmacy & Drug Store Management: Organization and legal requirements of retail and wholesale drug stores; dispensing and record maintenance; drug store management, procurement, inventory control, EOQ, reorder levels and drug expenditure analysis.	Apply(L3)/ Evaluate (L5)

SEMESTER VII		SUB: Novel Drug Delivery System- Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:BP.704 T	Explain the Fundamental Concept of controlled Drug delivery systems, Drug Release and Pre requisites of drug candidates, along with various approaches and classification and illustrate the Polymers classification, types, selection, application and examples to apply for development of novel drug delivery systems.	Understand (L2)

2.	CO2:BP.704 T	Classify various technologies like concept of microencapsulation, merits, demerits an d application, Types of Microencapsulatio n and Evaluation of microcapsules Identify and develop novel drug delivery systems li ke Mucosal and implantable drug delivery	Understand (L2)
3.	CO3:BP.704 T	Identify and develop novel Systems for delivery by topical route as transdermal drug delivery, oral route as Gastroprotective and pulmonary route as Nasopulmonary	Evaluate (L5)
4.	CO4:BP.704 T	Apply knowledge of concepts to develop, targeted Drug Delivery systems like liposomes, niosomes, nanoparticles, and monoclonal antibodies	Analyze (L4)
5.	CO5:BP.704 T	Identify and develop devices like intraocular formulations and ocusert	Apply (L3)

SEMESTER VII		SUB: Instrumental Methods of Analysis-Practical	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: BP705P	Summarize significance of weights and measures in analysis	Knows (L1)
2.	CO2: BP705P	Demonstrate and apply UV-Vis Spectroscopy in pharmaceutical analysis	Shows How(L3)/ Knows How (L2)
3.	CO3: BP705P	Determine quantity of drugs in samples by fluorimetry	Does (L4)

4.	CO4: BP705P	Apply chromatographic methods to separate components	Shows How (L3)
5.	CO5: BP705P	Analyze and interpret experimental data to calculate assay values, concentrations, and validate results.	Shows How (L3)

SEMESTER VIII		SUB: Biostatistics And Research Methodology Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP801T	Solve basic statistical problems with respect to measures of central tendency, dispersion, correlation of data and regression analysis.	Understand (L2)
2	CO2: BP801T	Describe concepts related to probability, sample, population, hypothesis and error.	Understand (L2)
3	CO3: BP801T	Explain various statistical techniques to solve statistical problems	Remember (L1)
4	CO4: BP801T	Design of experimental or research methodology techniques from protocol till report writing.	Analyze (L4)
5	CO5: BP801T	Summarize the operation of MS Excel, SPSS, R and MINITAB, DoE, factorial design and response surface methodology	Apply (L3)

SEMESTER VIII		SUB: Social and Preventive Pharmacy Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP 802T	Unit I – Concept of Health and Disease: Definition, concept and evaluation of public health; concept of prevention and control of diseases; social causes of diseases and social problems of the sick. Sociology and Health: Socio-cultural factors related to health and disease; impact of urbanization, poverty and health.	Understand (Level 2)
2.	CO2: BP 802T	Unit II – Preventive Medicine: General principles of prevention and control of diseases such as Cholera, SARS, Ebola, Influenza, ARI, Malaria, Chikungunya, Dengue, Filariasis, Pneumonia, Hypertension, Diabetes, Cancer, Drug Addiction/Substance Abuse.	Understand / Apply (Level 2–3)
3.	CO3: BP 802T	Unit I – Social and Health Education: Food in relation to nutrition and health; balanced diet; nutritional and vitamin deficiencies; malnutrition and its prevention. Hygiene and Health: Personal hygiene and health care; avoidable habits.	Understand / Apply (Level 2–3)

4.	CO4: BP 802T	Unit III – National Health Programs: HIV/AIDS, TB, IDSP, Leprosy, Mental Health, Deafness Control, Universal Immunization, Blindness Control, Pulse Polio. Unit IV – National Health Intervention Programs: For mother and child, family welfare, tobacco control, malaria prevention, elderly care, social health program; role of WHO.	Analyze / Evaluate (Level 4–5)
5.	CO5: BP 802T	Unit V – Community Services: Rural, urban, and school health; functions of PHCs; improvement in rural sanitation; national urban health mission; health promotion and education in schools.	Apply / Evaluate (Level 3–5)

SEMESTER VIII		**SUB: Pharmaceutical Marketing Theory**	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP803ET	Describe the fundamental concepts, scope, and environment of marketing and differentiate between marketing and selling with specific reference to the pharmaceutical industry.	Remembering (L1)
2	CO2: BP803ET	Explain consumer and industrial buying behavior, pharmaceutical market structure, market segmentation, targeting strategies, and the role of market research in decision-making.	Understanding (L2)

3	CO3: BP803ET	Apply product management principles including product life cycle, product mix, branding, packaging, labeling, and new product development in pharmaceutical marketing.	Applying (L3)
4	CO4: BP803ET	Analyze promotional strategies, marketing channels, physical distribution systems, and the professional role of pharmaceutical sales representatives in achieving organizational goals.	Analyzing (L4)
5	CO5: BP803ET	Evaluate pharmaceutical pricing methods, regulatory controls such as DPCO and NPPA, and emerging marketing concepts including rural, global, and digital marketing.	Evaluating (L5)

SEMESTER VIII	**SUB: Pharmaceutical Regulatory Science Theory**		
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP804 ET	New Drug Discovery and development: Stages of drug discovery, Drug development process, pre-clinical studies, non-clinical activities, clinical studies, Innovator and generics, Concept of generics, Generic drug product development..	Remember/ Understand

2.	CO2: BP804 ET	Regulatory Approval Process: Approval processes and time lines involved in Investigational New Drug (IN D), New Drug Application (NDA), Abbreviated New Drug Application (ANDA) in US. Changes to an appr oved NDA / ANDA. Regulatory authorities and agenci es: Overview of regulatory authorities of United State s, European Union, Australia, Japan, Canada (Organiz ation structure and types of applications only)	Understand / Apply
3.	CO3: BP804 ET	Registration of Indian drug product in overseas market Procedure for export of pharmaceutical products, Technical documentation, Drug Master Files (DMF), Common Technical Document (CTD), electronic Common Technical Document (eCTD), ASEAN Common Technical Document (ACTD) research.	Understand / Apply
4.	CO4: BP804 ET	Clinical trials Developing clinical trial protocols, Institutional Review Board / Independent Ethics committee - formation and working procedures, Informed consent process and procedures, GCP obligations of Investigators, sponsors & Monitors, Managing and Monitoring clinical trials, Pharmacovigilance - safety monitoring in clinical trials	Apply /Analyze

5.	CO5: BP804ET	Regulatory Concepts Regulatory Concepts Basic terminologies, guidance, guidelines, regulations, laws and acts, Orange book, Federal Register, Code of Federal Regulatory, Purple book	Understand/ Apply

SEMESTER VIII		SUB: Pharmacovigilance Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	BP 805T	Explain the history, scope, importance, and organizational structure of Pharmacovigilance, including WHO Programme and PvPI, and basic ADR concepts.	Understand (L1 – L2)
2.	BP 805T	Classify drugs and diseases using internationa l systems (ATC, ICD, DDD, INN) and apply drug dictionaries and coding systems used in pharmacovigilance.	Understand and Apply (L2 – L3)
3.	BP 805T	Describe and compare pharmacovigilance methods, including vaccine safety surveillance, spontaneous reporting, active surveillance, and observational studies.	Applying and Analyzing (L3 – L4)
4.	BP 805T	Apply statistical methods, ICH guidelines, safety reporting systems, and good clinical practice principles in pharmacovigilance.	Apply (L3 – L4)
5.	BP 805T	Analyze pharmacogenomic aspects, special populations, CIOMS, CDSCO regulations, and compare Indian and global pharmacovigilance requirements.	Analyzing and Evaluating (L4 – L5)

SEMESTER VIII		SUB: Quality Control and Standardization of Herbals Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP806 ET	Understand basic quality control tests and WHO guidelines for herbal drugs and herbal formulations	Understand
2.	CO2: BP806 ET	Understand quality assurance system s like GMP, cGMP, GAP, GACP, an d GLP used in herbal industries	Understand
3.	CO3: BP806 ET	Know WHO, EU, and ICH guidelines for quality, safety, and efficacy of herbal medicines	Remember
4.	CO4: BP806 ET	Apply chromatographic techniques for standardization and stability testing of herbal products	Apply
5.	CO5: BP806 ET	Understand regulatory requirements, pharmacovigilance, and the role of markers in herbal drug standardization	Understand

SEMESTER VIII		SUB: Computer Aided Drug Design Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP807 ET	Describe the basic concepts, scope, and role of Computer- Aided Drug Design in the drug discovery and development process.	Remember/ Understand
2.	CO2: BP807 ET	Explain the principles of molecul ar modeling, QSAR, pharmacoph ore modeling, and virtual screeni ng techniques used in CADD.	Understand / Apply

3.	CO3: BP807 ET	Apply in-silico tools to perform basic molecular modeling, docking, and ADMET prediction studies for drug candidates.	Understand / Apply
4.	CO4: BP807 ET	Analyse molecular interactions, QSAR results, and docking outcomes to identify potential lead compounds.	Apply /Analyze
5.	CO5: BP807 ET	Evaluate the advantages and limitations of computational approaches in drug design and their relevance in pharmaceutical research.	Evaluate

SEMESTER VIII		SUB: Cell And Molecular Biology Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP808 ET	Explain the organization and functions of prokaryotic and eukaryotic cell. Application of molecular biology concepts.	Remember/ Understand
2.	CO2: BP808 ET	Discuss the various bio-molecular processes. Understand the role of recombinant DN technology and gene therapy.	Understand / Apply
3.	CO3: BP808 ET	Apply molecular biology techniques like PCR, gel electrophoresis and blotting methods with its application in diagnosis and drug development.	Understand / Apply
4.	CO4: BP808 ET	Analyse mechanism of gene regulation and expression in prokaryotic and eukaryotic cell and to interpret its impact in cellular function and disease.	Apply /Analyze

5.	CO5: BP808 ET	Describe cell signaling pathways and receptor mechanisms with its pharmacological responses.	Evaluate

SEMESTER VIII		SUB: Cosmetic Science Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: BP809ET	Definition and classification of cosmetics and cosmeceutical products as per Indian regulations, Functions and applications of major cosmetic excipients, Basic structure and function of skin and hair including the hair growth cycle, Common problems associated with the oral cavity(teeth and gums).	Remember/ Understand
2.	CO2: BP809ET	Principles of formulation and bui lding blocks of Skin care product s (Face wash, Moisturizing crea m, Cold cream, Vanishing crea m), Hair care products (Shampoo s, Conditioners, Antidandruff pro ducts, Hair oils, Hair dyes), Oral care products (Tooth pastes, Mo uth wash), Advantages, Disadvan tages, Applications in the develo pment of cosmeceutical products.	Understand / Apply
3.	CO3: BP809ET	Principles of sun protection, Classification of sunscreens and SPF, Role of herbs in cosmetic formulations for Skin care (Aloe and Turmeric), Hair care (Henna, Amla), Oral care (Neem, Clove), BIS specifications and analytical methods for the evaluation of cosmetic products such as shampoos, skin creams, and toothpaste.	Understand/ Analyze

4.	CO4: BP809ET	Principles of cosmetic evaluation includingSebumeter, Corneometer, Measurement of TEWL, Skin colour, Hair tensile strength.	Understand/ Apply
5.	CO5: BP809ET	Oily and dry skin, causes leading to dry skin, skin moisturisation, Cosmetic problems associated with Hair and scalp: Dandruff, Hair fall causes, Cosmetic Problems associated with skin: blemishes, wrinkles, acne, prickly heat and body odor. Antiperspirants and Deodorants- actives and mechanism of action.	Understand/Apply

SEMESTER VIII		SUB: Experimental Pharmacology Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP810 ET.1	Describe the principles, objectives, scope, and ethical considerations involved in pharmacological screening, including CPCSEA guidelines and regulatory requirements for animal experimentation.	Understand (L2)
2	CO2: BP810 ET.2	Explain in-vitro and in-vivo screening models used for evaluation of drugs acting on the central nervous system, cardiovascular system, gastrointestinal system, and autonomic nervous system.	Understand (L2)

3	CO3: BP810 ET.3	Discuss experimental screening methods for analgesic, anti-inflammatory, antipyretic, anticonvulsant, antidepressant, antidiabetic, anti-ulcer, and anti-asthmatic activities.	Understand (L2)
4	CO4: BP810 ET.4	Analyze dose–response relationships, bioassay principles, and interpretation of pharmacological data obtained from screening experiments.	Analyze (L4)
5	CO5: BP810 ET.5	Correlate preclinical pharmacological screening results with therapeutic applications, safety evaluation, and drug discovery and development processes.	Apply (L3)

SEMESTER VIII		SUB: Advanced Instrumentation Techniques Theory	
SL.NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: BP811 ET	Express the principles of advanced techniques like NMR and MASS spectroscopy with its application in drug design.	Understand (L2)
2	CO2: BP811 ET	Express the principles of thermal methods of analysis with its application in drug design.	Understand (L2)
3	CO3: BP811 ET	Various methods employed in calibration of analytical instruments with its significance.	Remember (L1)
4	CO4: BP811 ET	Formulate and justify the techniques for analysis of drugs	Analyze (L4)
5	CO5: BP811 ET	Outline the importance of hyphenated techniques of analysis.	Apply (L3)

PUSHPAGIRI
COLLEGE OF PHARMACY
MEDICITY CAMPUS, PERUMTHURUTHY

ACCREDITED BY NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

COURSE OUTCOME: Pharm D

COLLEGE	**Pushpagiri College of Pharmacy**
COURSE	**Pharm D**
BATCH	**2025-2026**

YEAR I		SUB: Human Anatomy & Physiology-I Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1	CO1: PD 1.1T	Describe the structure and functions of human body organ system.	Remember (L1) Understand (L2)
2	CO2: PD 1.1T	Explain the physiological processes, homeostasis mechanism and regulatory pathways	Understand (L2)
3	CO3: PD 1.1T	Identify and relate the anatomical features with clinical relevance.	Apply (L3)
4	CO4: PD 1.1T	Perform basic physiological experiments, measurements and interpret results.	Apply(L3) Analyze(L4)
5	CO5 : PD 1.1T	Apply anatomical / physiological knowledge in understanding disease mechanism.	Apply(L3) Analyze(L4)

YEAR I		SUB: Pharmaceutics -Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1	CO1: PD 1.2 T	Explain history of the profession of pharmacy in India & Pharmacopoeia and its development.	Understand (L2)

2	CO2: PD 1.2 T	Learn parts and handling of prescription, posology in dose calculation of drug in imperial as well as metric system.	Apply (L3)
3	CO3: PD 1.2 T	Understand basic requirements, formulation and evaluation of conventional dosage forms like powder, liquid (monophasic & biphasic) and semi solid dosage forms.	Apply (L3)
4	CO4: PD 1.2 T	To understand about pharmaceutical incompatibility and methods to overcome.	Analyze(L4)
5	CO5 : PD1.2 T	Understand the method of preparation, purification and storage of galenicals as well as surgical aids and its pharmaceutical and clinical applications.	Understand (L2)

YEAR I		SUB: Medicinal Biochemistry - Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1:PD 1.3 T	Describe the biochemical organization of the cell, transport mechanisms across membranes, and the significance of energy-rich compounds such as ATP and cyclic AMP	Remember(L1), Understand (L2)
2.	CO2: PD 1.3 T	Explain the classification, mechanism of actio n, inhibition, and clinical relevance of enzyme s, isoenzymes, and coenzymes with associated deficiency disorders.	Understand (L2), Apply (L3)
3.	CO3:PD 1.3 T	Illustrate major metabolic pathways of carbohydrates, lipids, proteins, and nucleic acids, and analyze related metabolic disorders and their biochemical basis.	Understand (L1) Apply(L3),

4.	CO4:PD 1.3 T	Evaluate the biochemical principles underlying biological oxidation, electron transport chain function, oxidative phosphorylation, and the effects of inhibitors and uncouplers.	Understand(L2), Evaluate (L5)
5.	CO5:PD 1.3 T	Interpret the results of clinical chemistry investigations including kidney function tests, liver function tests, lipid profile, immunochemical assays (RIA, ELISA), and electrolyte estimation.	Apply(L3), Evaluate(L5)

YEAR I		SUB: Pharmaceutical Organic Chemistry-Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 1.4T	Classify organic compounds and apply appropriate nomenclature systems relevant to pharmaceutical chemistry.	Understand
2.	CO2: PD 1.4T	Explain the physical properties of organic compounds—including pol arity, melting point, boiling point, and solubility—and relate them to c hemical structure.	Understand
3.	CO3: PD 1.4T	Differentiate and interpret isomerism in organic compounds, including structural and stereoisomerism, with pharmaceutical significance.	Analyze
4.	CO4: PD 1.4T	Describe and apply organic reaction mechanisms, including free radical reactions, nucleophilic and electrophilic substitution and addition, elimination, and oxidation–reduction reactions, along with named reactions and orientation effects.	Apply

5.	CO5: PD 1.4T	Explain the preparation, assay, purity tests, and medicinal uses of important organic compounds used in pharmacy.	Understand / Apply

YEAR I		SUB: Pharmaceutical Inorganic Chemistry-Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 1.5T	Apply analytical principles to minimize errors and perform volumetric and gravimetric analysis	Apply, Perform
2.	CO2: PD 1.5T	Differentiate and execute various t itrimetric techniques and select sui table indicators	Differentiate, Execute, Select, Interpret
3.	CO3: PD 1.5T	Evaluate quality and purity of inorganic pharmaceuticals using limit tests	Evaluate, Assess
4.	CO4: PD 1.5T	Explain pharmaceutical significance, composition, uses, and adverse effects of inorganic medicinal agents	Explain, Describe
5.	CO5: PD 1.5T	Describe roles and applications of pharmaceutical aids, dental products, radiopharmaceuticals, and related compounds	Describe, Illustrate

YEAR I		SUB: Remedial Mathematics-Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 1.6T	Define and list fundamental mathematical formulas, terms, and properties of matrices, logarithms, and trigonometry.	L1

2.	CO2: PD 1.6T	Explain the theoretical concepts of calculus, analytical geometry, and differential equations in pharmaceutical data.	L2
3.	CO3: PD 1.6T	Solve algebraic and trigonometric problems related to drug concentration and dosage calculations.	L3
4.	CO4: PD 1.6T	Analyze the relationship between variables in pharmaceutical kinetics using differentiation and integration.	L4
5.	CO5: PD 1.6T	Evaluate complex drug delivery models using Laplace transforms and higher-order differential equations.	L5

YEAR I		SUB: Remedial Biology-Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 1.7T	Recall the fundamental structure and functions of cell components, skeletal systems, and various kingdoms of life.	L1
2.	CO2: PD 1.7T	Explain the physiological mechanisms of body fluids, circulation, and homeostatic balance in the human body.	L2
3.	CO3: PD 1.7T	Apply the anatomy and physiology of plants, including mineral nutrition, photosynthesis, and growth processes.	L3
4.	CO4: PD 1.7T	Examine basic biological principles to understand the source and nature of natural drugs used in pharmaceutical sciences.	L4

5.	CO5: PD 1.7T	Analyze the coordination between neuronal and chemical systems in animals to interpret basic biological responses	L5

YEAR I		SUB: Human Anatomy and Physiology-Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.1P	Recall and explain the basic anatomical structures and physiological concepts related to various human body systems required for practical experiments	Knows
2.	CO2: PD 1.1P	Explain the principles, procedures, and clinical relevance of physiolo gical measurements and basic hem atological investigations.	Knows How
3.	CO3: PD 1.1P	Demonstrate proper techniques for anatomical identification, physiological measurements, and hematological experiments in the laboratory.	Shows How
4.	CO4: PD 1.1P	Perform routine HAP practical procedures such as recording blood pressure, pulse rate, respiratory rate, hemoglobin estimation, and blood cell counting while adhering to safety guidelines.	Does
5.	CO5: PD 1.1P	Record, analyze, and communicate experimental observations and results effectively through practical records, viva-voce, and laboratory discussions.	Does

YEAR I		SUB: Pharmaceutics -Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.2P	Prepare basic pharmaceutical dosage forms by applying standard formulation principles and calculations	Shows How
2.	CO2: PD 1.2P	Demonstrate correct handling and use of laboratory instruments and equipment.	Shows How
3.	CO3: PD 1.2P	Perform pharmaceutical calculations relevant to formulation and compounding.	Knows How
4.	CO4: PD 1.2P	Evaluate prepared pharmaceutical formulations using appropriate physico-chemical tests.	Shows How
5.	CO5: PD 1.2P	Record experimental procedures, observations and results systematically in laboratory records.	Does

YEAR I		SUB: Medicinal Biochemistry - Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:PD 1.3 P	Perform qualitative analysis of normal and abnormal constituents of urine and interpret the results.	Shows (L3)
2.	CO2: PD 1.3 P	Accurately perform quantitative biochemical e stimations in urine and serum using standard manual methods (Benedict's, Volhard's, Jaff e's, Libermann Burchard reaction, precipitatio n methods, enzymatic methods, Folin-Wu, et c.).	Shows How (L4)

3.	CO3:PD 1.3 P	Prepare standard reagents/ filtrates, buffers and handle laboratory equipment including colorimeters and pH meters with proper technique and safety.	Does (L4)
4.	CO4:PD 1.3 P	Analyze biochemical test results, calculate concentrations, interpret deviations from normal values, and correlate findings with possible clinical conditions.	Knows How (L3)
5.	CO5:PD 1.3 P	Demonstrate competency in conducting routine biochemical investigations used in clinical laboratories, ensuring accuracy, precision, and adherence to quality control principles.	Does (L4)

YEAR I		SUB: Pharmaceutical Organic Chemistry-Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.4P	Perform qualitative analysis and identification of organic compounds using preliminary tests, functional group tests, and confirmation reactions.	Apply
2.	CO2: PD 1.4P	Carry out preparation of selected organic compounds using appropriate laboratory techniques, ensuring accuracy and safety.	Appl
3.	CO3: PD 1.4P	Apply purification techniques such as crystallization and distillation, and assess the purity of organic compounds.	Apply
4.	CO4: PD 1.4P	Determine physical constants and assay values of organic compounds and interpret the results in accordance with pharmacopoeial standards.	Analyz e

5.	CO5: PD 1.4P	Demonstrate good laboratory practices (GLP) including proper handling of chemicals, use of apparatus, maintenance of laboratory records, and adherence to safety and waste-disposal norms.	Appl y

YEAR I		SUB: Pharmaceutical Inorganic Chemistry-Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.5P	Perform Pharmacopoeial limit tests and interpret results	Appl y
2.	CO2: PD 1.5P	Carry out quantitative assays using volumetric and gravimetric techniques	Apply
3.	CO3: PD 1.5P	Estimate binary mixtures using analytical calculations and titration methods	Apply
4.	CO4: PD 1.5P	Identify substances and evaluate purity using official tests	Analyze
5.	CO5: PD 1.5P	Prepare inorganic pharmaceutical compounds using proper laboratory techniques	Apply

YEAR I		SUB: Remedial Biology -Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.5P	List the parts of a compound microscope and define the techniques for preparing biological slides.	Knows
2.	CO2: PD 1.5P	Explain the underlying principles of cell staining, osmosis, and plant tissue identification.	Knows How

3.	CO3: PD 1.5P	Demonstrate the correct procedure for section cutting, staining, and mounting plant and animal tissues.	Shows How
4.	CO4: PD 1.5P	Identify and describe the morphological features of various kingdoms (Monera, Protista, Fungi) and skeletal systems using models.	Shows How
5.	CO5: PD 1.5P	Independently perform experiments to determine blood group, blood pressure, and microscopic characteristics of crude drugs.	Apply

YEAR II		SUB: Pathophysiology- Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1 PD 2.1	Describe the etiology, pathogenesis, morphological and functional changes associated with cell injury, adaptation, inflammation, wound healing, immunity, neoplasia, shock, radiation injury, and environmental & nutritional disorders	Remember(L1), Understand (L2)
2.	CO2 PD 2.1	Explain the pathophysiology, clinical manifest ations, and complications of diseases affecting major body systems including cardiovascular, respiratory, renal, gastrointestinal, endocrine, hematological, nervous, musculoskeletal, and psychiatric systems	Understand (L2),

3.	CO3 PD2.1	Apply pathophysiological principles to interpret disease mechanisms and systemic manifestations in common disorders such as hypertension, diabetes mellitus, asthma, COPD, anemia, peptic ulcer disease, stroke, myocardial infarction, and heart failure	Apply(L3),
4.	CO4 PD2.1	Analyze alterations in normal physiological processes leading to acute, chronic, autoimmune, metabolic, infectious, degenerative, and neoplastic diseases, and correlate them with disease progression.	Analyze (L4)
5.	CO5 PD2.1	Integrate pathophysiological knowledge to predict complications, prognosis, and therapeutic implications in conditions such as tuberculosis, HIV/AIDS, typhoid, leprosy, renal failure, liver cirrhosis, and malignancies	Apply(L3), Evaluate(L5)

YEAR II		SUB: Pharmaceutical Microbiology- Practical	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD.2.2	Demonstrate the use of microscopes, staining techniques and biochemical tests for identification of microorganisms.	Shows How
2.	CO2: PD.2.2	Perform aseptic techniques in handling and transferring microbial cultures.	Does
3.	CO3: PD.2.2	Prepare and sterilize culture media using physical and chemical methods.	Shows How

4.	CO4: PD.2.2	Interpretation of bacterial motility	Knows How
5.	CO5: PD.2.2	Analyze the effectiveness of antibiotics	Shows How

YEAR II		SUB: Pharmacognosy and Phytopharmaceuticals- Theory	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 2	Define Pharmacognosy and explain its history, scope, Classify crude drugs, Describe the methods of cultivation, collection, processing, and storage of crude drugs.	Understand (L2)
2.	CO2: PD 2	Explain in detail the methods of cultivation of crude drugs, Identify and differentiate cell wall constituents and cell inclusions, Perform microscopical and powder microscopical evaluation of crude drugs for identification and quality control.	Apply(L3), Analyze(L4)
3.	CO3: PD 2	Describe the sources, properties, and applications of natural pesticides in crude drugs. Explain the chemistry, classification, and significance of carbohydrates and related products. Analyze carbohydrate-containing crude drugs	Understand(L2), Analyze (L4)
4.	CO4: PD 2	Explain the sources, extraction methods, chemistry, and analysis of lipids. analyze various fixed oils with respect to source, chemistry, and pharmaceutical uses. Explain the definition, classification, chemistry, and methods of analysis of proteins.	Understand(L2), Analyze (L4)

5.	CO5: PD 2	Identify plant fibers used in surgical dressings and evaluate their pharmaceutical applications. Detect and differentiate various methods of adulteration of crude drugs to ensure drug quality and safety.	Apply(L3), Evaluate(L5)

YEAR II		SUB: Pharmaceutical Microbiology- Practical	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 2	Explain the organization, safety practices, and experimental procedures in the Pharmacognosy laboratory.	Knows
2.	CO2: PD 2	Identify and differentiate cell wall constituents and cell inclusions using microscopic techniques.	Knows How
3.	CO3: PD 2	Perform macroscopic, powder, and microscopic evaluation of crude drugs for identification and authentication.	Shows How
4.	CO4: PD 2	Determine physicochemical constants such as iodine value, acid value, ester value, saponification value, and unsaponifiable matter.	Shows How
5.	CO5: PD 2	Perform and interpret chemical tests for identification of carbohydrates, lipids, proteins, and gums.	Shows How

YEAR II		SUB: Pharmacology I - Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1 PD2.4	Describe the fundamental principles of general pharmacology including routes of administration, pharmacokinetics, pharmacodynamics, adverse drug reactions, drug interactions, and toxicity.	Remember(L1), Understand (L2)
2.	CO2 PD2.4	Explain and classify drugs acting on the Auton omic Nervous System (ANS) with respect to t heir mechanism of action, therapeutic uses, ad verse effects, and contraindications.	Understand (L2),
3.	CO3 PD2.4	Analyze the pharmacology of drugs acting on the Cardiovascular System, Central Nervous System, and Respiratory System including their mechanism of action, pharmacological effects, and clinical applications.	Analyze (L4)
4.	CO4 PD2.4	Apply the knowledge of hormones, hormone antagonists, and autacoids in understanding disease management, rational drug use, and selection of appropriate therapy.	Apply (L3)
5.	CO5 PD2.4	Evaluate drug therapy by correlating pharmacological actions with therapeutic outcomes, adverse effects, contraindications, and patient-specific considerations for safe and effective drug use.	Evaluate(L5)

YEAR II		SUB: Community Pharmacy- Theory	
SL NO	**COURSE CODE**	**DECSRIPTION**	**BLOOM'S LEVEL**
1.	CO1:PD.205 T	Describe the organization, functions, and professional roles of community pharmacy services in the healthcare system.	Remembering (L1)
2.	CO2: PD.205 T	Explain Good Pharmacy Practice (GPP), ethical principles, and legal requirements governing community pharmacy practice in India.	Understand (L2)
3.	CO3:PD.205 T	Demonstrate effective communication skills in patient counselling and handling non- prescription (OTC) medication requests. And promoting rational use of medicines in community pharmacy.	Apply(L3)
4.	CO4:PD.205 T	Identify, analyse and report medication-related problems, including ADRs and medication errors, using pharmacovigilance systems.	Analyzing (L4)
5.	CO5:PD.205 T	Evaluate prescriptions for legality, completeness, and appropriateness and provide drug information to patients and healthcare professionals.	Evaluating (L5)

YEAR II		SUB: Pharmacotherapeutics I - Theory	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1 PD 2.6	Recall and describe the etiology, pathophysiology, clinical features, and classification of cardiovascular disorders such as hypertension, congestive cardiac failure, angina pectoris, myocardial infarction, hyperlipidemias, electrophysiology of the heart, and arrhythmias.	Remember (L1)
2	CO2 PD 2.6	Explain pulmonary function tests and the disease mechanisms, signs, symptoms, and pharmacological management of respiratory disorders including asthma, chronic obstructive airway disease, and drug-induced pulmonary diseases.	Understand (L1)
3	CO3 PD 2.6	Apply principles of pharmacotherapy and general prescribing guidelines in special populations such as paediatric, geriatric, pregnant, and breastfeeding patients.	Apply (L3)
4	CO4 PD 2.6	Analyze endocrine disorders including diabetes mellitus, thyroid diseases, osteoporosis, and compare therapeutic approaches involving oral contraceptives and hormone replacement therapy.	Analyze (L4)

5	CO5 PD 2.6	Evaluate rational drug use by assessing essential drug concepts, rational drug formulations, ophthalmic management of glaucoma and conjunctivitis, and justify the professional role of the pharmacist in promoting safe and effective therapy	Evaluate (L5)

YEAR II		SUB: Pharmacotherapeutics I- Practical	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 2.6	The pathophysiology of selected disease states and the rationale for drug therapy; The therapeutic approach to management of these diseases; The controversies in drug therapy; The importance of preparation of individualised therapeutic plans based on diagnosis;	Knows
2.	CO2: PD 2.6	Explains clinical features, investigations, and management of cardiovascular, respiratory, endocrine, and ophthalmic disorders	Knows how
3.	CO3: PD 2.6	Present and assess clinical cases related to cardiovascular, respiratory, endocrine, and ophthalmic disorders Interpret relevant investigations such as ECG and pulmonary function tests Identify drug-related problems and evaluate prescription rationality	Shows How

4.	CO4: PD 2.6	Recommend appropriate pharmacotherapy and dose adjustments Provide patient counselling and monitoring for drug therapy Apply principles of rational drug use and essential medicines in clinical cases	Does
5	CO5: PD 2.6	Demonstrate the professional role of the clinical pharmacist by designing, implementing, and evaluating individualized therapeutic plans, ensuring patient safety, treatment effectiveness, and rational medication use across different patient populations.	Does

YEAR II		SUB: Pharmacology- Theory	
SI NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:PD 3.1T	Describe the pharmacology, mechanisms, therapeutic uses, and adverse effects of drugs acting on blood and blood-forming agents, including anticoagulants, thrombolytics, antiplatelets, haemopoietics, and plasma expanders.	Understand (L2)
2	CO2: PD 3.1T	Explain the pharmacological actions, classifications, and clinical applications of drugs acting on the renal system, such as diuretics and antidiuretics.	Understand (L2)

3	CO3: PD 3.1T	Discuss the principles of chemotherapy, including mechanisms, resistance, and specifics of antibacterial (sulfonamides, penicillins, cephalosporins, tetracyclines, etc.), antifungal, antiviral, antiprotozoal, antihelminthic, antimalarial, antitubercular, antileprotic, and anticancer agents.	Understand (L2) Analyze (L4)
4	CO4: PD 3.1T	Outline the pharmacology of immunosuppressants and stimulants in immunopharmacology.	Understand (L2)
5	CO5 : PD 3.1T	Describe principles of animal toxicology (acute, subacute, chronic) and apply knowledge of cell biology, including cell structure, macromolecules, chromosome organization, DNA replication, cell cycle, signaling pathways, gene structure, expression, transcription, RNA processing, protein synthesis, mutations, oncogenes, tumor suppressors, and recombinant DNA technology.	Understand (L2) Apply (L3)

YEAR II		SUB: Pharmacology - Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 3.1P	Demonstrate proper handling, care, and anesthesia use for laboratory animals (frogs, mice, rats, guinea pigs, rabbits) and routes of drug administration.	Knows how / Shows how

2.	CO2: PD 3.1P	Prepare physiological salt solutions and i dentify laboratory appliances for experim ental pharmacology	Knows
3.	CO3: PD 3.1P	Record dose-response curves and perform bioassays (interpolation, three-point methods) for acetylcholine and histamine using isolated ileum, rectus abdominis, and guinea-pig ileum preparations, including agonist-antagonist studies.	Shows how / Does
4.	CO4: PD 3.1P	Conduct and interpret in vivo pharmacological screenings for analgesic (analgesiometer), anti-inflammatory (rat- paw edema), anticonvulsant (MES/PTZ), antidepressant (pole climbing/sleeping time), and locomotor (actophotometer/rotorod) activities.	Shows how
5.	CO5: PD 3.1P	Evaluate cardiotonic activity using isolated frog and mammalian heart preparations, explaining theory, procedures, and results.	Does / Shows how

YEAR II		SUB: Pharmacology - Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 3.1P	Demonstrate proper handling, care, and anesthesia use for laboratory animals (frogs, mice, rats, guinea pigs, rabbits) and routes of drug administration.	Knows how / Shows how

2.	CO2: PD 3.1P	Prepare physiological salt solutions and i dentify laboratory appliances for experim ental pharmacology	Knows
3.	CO3: PD 3.1P	Record dose-response curves and perform bioassays (interpolation, three-point methods) for acetylcholine and histamine using isolated ileum, rectus abdominis, and guinea-pig ileum preparations, including agonist-antagonist studies.	Shows how / Does
4.	CO4: PD 3.1P	Conduct and interpret in vivo pharmacological screenings for analgesic (analgesiometer), anti-inflammatory (rat- paw edema), anticonvulsant (MES/PTZ), antidepressant (pole climbing/sleeping time), and locomotor (actophotometer/rotorod) activities.	Shows how
5.	CO5: PD 3.1P	Evaluate cardiotonic activity using isolated frog and mammalian heart preparations, explaining theory, procedures, and results.	Does / Shows how

YEAR III		SUB: Pharmaceutical Analysis - Theory	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:PD 3.2 T	Explain the principles of Quality Assurance, sources and control of quality variation, statistical quality control, validation procedures, GLP, ISO, TQM, ICH guidelines, and regulatory requirements applicable to pharmaceutical industries.	Remember(L1), Understand (L2)

2.	CO2: PD 3.2 T	Describe and compare the principles, instrument ation, separation mechanisms and pharmaceutica l applications of chromatographic techniques in cluding column chromatography, TLC, PC, ion -exchange chromatography, HPLC, HPTLC, G C, electrophoresis, gel filtration, and affinity ch romatography.	Understand (L2), Apply (L3) Analyze(L4)
3.	CO3:PD 3.2 T	Apply the theoretical principles and instrumentation of electrometric methods such as potentiometry, conductometry, polarography, and amperometric titrations for quantitative pharmaceutical analysis and interpretation of analytical data.	Understand (L2) Apply(L3),
4.	CO4:PD 3.2 T	Principle, instrumentation, interpretation and analysis of UV–Visible, IR, Fluorimetry, Flame photometry, Atomic absorption and emission spectroscopy for qualitative and quantitative estimation of drugs and pharmaceutical substances.	Understand(L2), Analyze (L4)
5.	CO5:PD 3.2 T	Evaluate and justify the selection of appropriate analytical techniques including NMR, ESR, Mass spectroscopy, Polarimetry, X-ray diffraction, and Thermal analysis (DSC, DTA) for drug characterization, quality control, and regulatory compliance.	Apply(L3), Evaluate(L5)

YEAR III		SUB: Pharmaceutical Analysis - Practical	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVELS**
1.	CO1:PD 3.2 P	Perform separation and identification of pharmaceutical compounds such as amino acids and sulpha drugs using paper chromatography and TLC, and calculate Rf values for identification.	Knows how (Level 1) Shows How (Level 3)
2.	CO2: PD 3.2 P	Carry out UV–Visible spectrophotometric expe riments to study effect of pH and solvent, comp arison of spectra, determination of dissociation constant (pKa), and simultaneous estimation of drugs, with proper interpretation of spectral data.	Shows How (Level 3)
3.	CO3:PD 3.2 P	Execute electrometric analytical techniques including conductometric and potentiometric titrations, pH-metric determination of pKa, and flame photometric estimation of Na^+/K^+, demonstrating correct use of instruments and data interpretation.	Does (Level 4)
4.	CO4:PD 3.2 P	Estimate pharmaceutical substances using colorimetric, fluorimetric, nepheloturbidimetric, and polarimetric methods, including assay of drugs and determination of impurities, following standard laboratory procedures.	Does (Level 4)

5.	CO5:PD 3.2 P	Interpret analytical data and spectra obtained from IR, NMR, and advanced instrumental techniques such as HPLC, HPTLC, GC-MS, and DSC, and correlate results with pharmaceutical quality and structure.	Knows How / Shows How (Level 2–3)

YEAR III		SUB: Pharmacotherapeutics II -Theory	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 3.3T	Explain the pathophysiology and etiopathogenesis of common infectious, musculoskeletal, renal, oncologic, and dermatological disorders.	Understand (L2)
2.	CO2: PD 3.3T	Apply evidence-based guidelines t o select appropriate pharmacother apeutic strategies for the managem ent of infectious diseases, musculo skeletal disorders, renal illnesses, cancers, and dermatological condit ions	Apply (L3)
3.	CO3: PD 3.3T	Analyze the rationale behind drug selection, dosing, and duration of therapy, including controversies and current recommendations in pharmacotherapy	Analyze (L4)
4.	CO4: PD 3.3T	Evaluate therapeutic outcomes by interpreting clinical and laboratory indices, identifying adverse drug reactions, and recommending necessary adjustments in therapy.	Evaluate (L5)
5.	CO5: PD 3.3T	Demonstrate the ability to apply principles of rational antibiotic use and surgical prophylaxis in clinical scenarios.	Apply (L3)

YEAR III		SUB: Pharmacotherapeutics II -Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 3.3P	Describe the principles involved in the rational selection of drug therapy for common disease conditions encountered during hospital postings	Knows How
2.	CO2: PD 3.3P	Apply pharmacotherapeutic knowl edge during ward rounds to follow up patients, assess therapeutic outc omes, and identify changes in drug therapy.	Knows How
3.	CO3: PD 3.3P	Demonstrate the ability to monitor patients by interpreting clinical signs, laboratory investigations, and treatment charts under supervision	Shows How
4.	CO4: PD 3.3P	Present and document a minimum of 20 clinical cases systematically, including diagnosis, pharmacotherapy, monitoring parameters, and discharge details.	Shows How
5.	CO5: PD 3.3P	Analyze and discuss patient- specific drug therapy during clinical discussions to support rational and evidence-based treatment decisions.	Shows How

YEAR III		SUB: Pharmaceutical Jurisprudence - Theory	
SL. NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 3.4T	Explain the evolution, objectives, and scope of pharmaceutical legislations in India and their significance in pharmacy practice.	Understand (L2)
2.	CO2: PD 3.4 T	Describe the principles of professional ethics and critically analyze the Code of Pharmaceu tical Ethics prescribed by PCI.	Analyze (L4)
3.	CO3: PD 3.4 T	Interpret the provisions of the Drugs and Cosmetics Act, 1940 and Rules, 1945 including schedules, licensing, labeling, import, and sale of drugs and cosmetics.	Apply (L3)
4.	CO4: PD 3.4 T	Explain the constitution, functions, and regulatory roles of statutory bodies such as DTAB, DCC, CDL, PCI, and Drug Control authorities.	Understand (L2)
5.	CO5: PD 3.4T	Apply legal knowledge related to NDPS Act, DPCO, Essential Commodities Act, Patents Act, and animal ethics in professional and regulatory decision-making.	Apply (L3)

YEAR III		SUB: Medicinal Chemistry- Theory	
SI NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: PD 3.5 T	Understand the various physicochemical properties, concept, and importance of drug design with different techniques involved.	Understand, Apply

2	CO2: PD 3.5 T	Identify the structure, IUPAC, and s tereochemistry of various classes of drugs.	Analyze
3	CO3: PD 3.5 T	Describe the MOA and uses of various classes of drugs	Understand, Apply
4	CO4: PD 3.5 T	Discuss the SAR of drugs belonging to various classes of drugs.	Understand, Analyze
5	CO5: PD 3.5 T	Outline the synthesis and chemical reaction of drugs belonging to various classes of drugs.	Remember, Create

YEAR III		SUB: Medicinal Chemistry - Practical	
SI NO	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1: PD 3.5 P	Assay of various preparations to identify the percentage purity and determination of normality of secondary solutions.	Does
2	CO2: PD 3.5 P	Preparation of various drugs and intermediates	Shows how
3	CO3: PD 3.5 P	Monitoring of various reactions using melting point determination and chromatography techniques	Does

4	CO4: PD 3.5 P	Apply various techniques of purification like recrystallization.	Does
5	CO5: PD 3.5 P	Estimation of various physicochemical properties like partition co-efficient, Ionization constant.	Shows how

YEAR III		SUB: Pharmaceutical Formulations - Theory	
SL. NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 3.6 T	Explain the principles of pharmaceutical formulation and the role of excipients in the development of dosage forms.	Understand (L2)
2.	CO2: PD 3.6 T	Apply preformulation studies to evaluat e physicochemical properties of drugs inf luencing formulation development and ability.	Apply (L5)
3.	CO3: PD 3.6 T	Design, formulate, and evaluate conventional dosage forms such as tablets, capsules, liquids, and semisolids.	Evaluate (L3)
4.	CO4: PD 3.6 T	Understand and apply concepts related to modified-release, novel, and specialized drug delivery systems.	Evaluate (L3)
5.	CO5 : PD 3.6 T	Perform and interpret quality control, stability testing, and packaging requirements as per regulatory guidelines.	Apply (L5)

YEAR III		SUB: Pharmaceutical Formulations-Practical	
SL. NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 3.6 P	Prepare and compound various pharmaceutical dosage forms including solid, liquid, semisolid, and sterile preparations using standard procedures.	Knows
2.	CO2: PD 3.6 P	Select and use appropriate excipients, equip ment, and techniques for formulation devel opment.	Knows how
3.	CO3: PD 3.6 P	Perform evaluation and quality control tests for formulated dosage forms and interpret the results.	Shows how
4.	CO4: PD 3.6 P	Apply pre-formulation, stability, and compatibility studies during formulation and evaluation.	Shows how
5.	CO5: PD 3.6 P	Follow Good Laboratory Practices (GLP), GMP guidelines, and safety measures while carrying out pharmaceutical formulation experiments.	Does

YEAR IV		SUB: Pharmacotherapeutics-III Theory	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: PD 4.1T	Explain the pathophysiology, clinical features, and pharmacological management of gastrointestinal disorders including Peptic Ulcer Disease, GERD, IBD, and liver disorders.	Understand (L2)

2	CO2: PD 4.1T	Describe the etiology, diagnosis, and therapeut ic management of haematological disorders in cluding anaemias, VTE, and drug-induced blo od disorders.	Understand (L2)
3	CO3: PD 4.1T	Apply clinical knowledge and treatment guidelines for neurological disorders such as epilepsy, Parkinsonism, stroke, and Alzheimer's disease.	Apply (L3)
4	CO4: PD 4.1T	Analyze and evaluate pharmacotherapy of psychiatric disorders including schizophrenia, affective, anxiety, sleep, and obsessive- compulsive disorders.	Analyze (L4)
5	CO5: PD 4.1T	Assess pain pathways, pain management strategies, and apply evidence-based medicine principles in clinical decision-making.	Evaluate (L5)

YEAR IV		SUB: Pharmacotherapeutics-III Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1: PD 4.1P	Demonstrate understanding of the principles o f ward rounds, clinical case discussions, and ra tional selection of drug therapy in hospitalized patients.	Knows (Level 1)
2	CO2: PD 4.1P	Explain patient case details including diagnosis, laboratory findings, medication history, and therapeutic rationale during ward round participation and case discussions.	Knows How (Level 2)

3	CO3: PD 4.1P	Apply clinical pharmacy principles to observe, document, and maintain records of at least 15 patient cases, including identification of drug- related problems during hospital postings.	Shows How (Level 3)
4	CO4: PD 4.1P	Demonstrate effective clinical presentation skills by presenting and discussing a minimum of two medical cases followed during ward postings with appropriate pharmaceutical care plans.	Shows How (Level 3)
5	CO5: PD 4.1P	Perform competently in real clinical settings by actively participating in ward rounds, communicating with healthcare professionals, and contributing to patient-centered drug therapy decisions.	Does (Level 4)

YEAR IV		SUB: Hospital Pharmacy- Theory	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1:PD.402 T	Students will apply dispensing, counselling, and service principles in hospital and family pharmacy settings.	Apply (L3)
2.	CO2: PD.402 T	Students will analyze prescriptions for appropr iateness, safety, interactions, and legal compli ance.	Analyze (L4)
3.	CO3:PD.402 T	Students will evaluate ADRs, medication errors, and reporting systems in hospital pharmacy practice.	Evaluate (L5)

4.	CO4:PD.402 T	Students will evaluate storage, procurement, and inventory control methods for rational drug use.	Evaluate (L5)
5.	CO5:PD.402 T	Students will evaluate clinical decision- making, patient counselling, and ethical responsibilities of pharmacists.	Evaluate (L5)

YEAR IV		SUB: Hospital Pharmacy- Practical	
SL NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1:PD.402 P	Students will demonstrate standard hospital pharmacy procedures including dispensing, documentation, and workflow management.	Shows How
2.	CO2: PD.402 P	Students will demonstrate the ability to interpret prescriptions and medication charts for correctness, interactions, and appropriateness.	Shows How
3.	CO3:PD.402 P	Students will identify and report safety measures, including ADR identification and medication error prevention during practice.	Shows How
4.	CO4:PD.402 P	Students will demonstrate the procedures for drug storage, inventory control methods, and expiry management in hospital pharmacy settings.	Shows How
5.	CO5:PD.402 P	Students will demonstrate patient counselling techniques, inter professional communication, and ethical conduct during hospital pharmacy practice.	Shows How

YEAR IV		SUB: Clinical Pharmacy -Theory	
SL NO.	**COURSE CODE**	**COURSE OUTCOME**	**BLOOM'S LEVEL**
1	CO1: PD 4.3 T	Define, describe, and explain the development, scope, and principles of clinical pharmacy, including pharmaceutical care concepts and the professional role of a clinical pharmacist in healthcare settings.	Remember (L1) Understand (L2)
2	CO2: PD 4.3T	Apply clinical pharmacy knowledge to perform drug therapy monitoring, ward round participation, medication history taking, patient counseling, DUE/ DUR, drug and poison information services, ADR management, and quality assurance activities in patient care.	Understand (L2) Apply (L3)
3	CO3: PD 4.3T	Analyze patient case histories, interpret medical abbreviations and clinical terminologies, and evaluate clinical laboratory test results (hematological, liver, renal, thyroid, cardiac, microbiological, pulmonary, and electrolyte tests) to support rational drug therapy decisions.	Apply (L3) Analyze (L4)
4	CO4: PD 4.3T	Retrieve, evaluate, and communicate drug and poison information, manage drug information queries systematically, establish and utilize Drug Information Centres, and assess, report, and manage adverse drug reactions using pharmacovigilance principles and causality assessment scales.	Understand (L2) Apply (L3) Evaluate (L5)

5	CO5: PD 4.3 T	Demonstrate effective communication and counseling skills, critically evaluate biomedical literature, identify and prevent medication errors, and contribute to safe, evidence-based, patient-centered pharmaceutical care.	Analyze (L4) Evaluate (L5)

YEAR IV		SUB: Clinical Pharmacy -Practical	
SL NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO1: PD 4.3 P	Describe the sources, classification, and systematic approach for responding to drug information queries accurately.	Knows
2	CO2: PD 4.3P	Apply clinical knowledge to interpret laboratory investigation results and identify drug-related problems in patient case studies.	Knows How
3	CO3: PD 4.3P	Demonstrate effective patient medication history interview skills using appropriate questioning, documentation, and communication techniques.	Shows How
4	CO4: PD 4.3P	Demonstrate patient-specific medication counselling by explaining drug use, dosage, side effects, and adherence strategies.	Shows How
5	CO5: PD 4.3P	Independently perform drug information services, medication counselling, case analysis, and medication history interviews in a simulated or clinical setting with professional competence.	Does

YEAR IV		SUB: Biostatistics and Research Methodology	
SL NO.	**COURSE CODE**	**COURSE OUTCOME**	**BLOOM'S LEVEL**
1	CO1: PD 4.4T	Describe different clinical research study designs, research methodology, sample size determination, study power, and principles of research report writing and data presentation.	Remember (L1) Understand (L2)
2	CO2: PD 4.4T	Apply biostatistical concepts to classify data, compute measures of central tendency and dispersion, and construct appropriate graphical representations.	Apply (L3)
3	CO3: PD 4.4T	Analyze research data by selecting and performing suitable parametric and non- parametric hypothesis tests, including correlation and regression analysis.	Analyze (L4)
4	CO4: PD 4.4T	Evaluate epidemiological data using statistical measures such as incidence, prevalence, relative risk, and attributable risk, and interpret statistical outputs.	Evaluate (L5)
5	CO5: PD 4.4T	Demonstrate the use of computer applications in hospital and community pharmacy for patient records, prescription processing, inventory control, pharmaceutical care, accounting, and drug information retrieval systems.	Apply (L3)

YEAR IV		SUB: Biopharmaceutics And Pharmacokinetics Theory	
SL. NO.	COURSE CODE	DESCRIPTION	BLOOM'S LEVEL
1	CO 1: PD:4.5T	Explain the fundamental principles of biopharmaceutics, including drug absorption, distribution, and elimination.	Understand (L2) Apply (L3)
2	CO 2: PD:4.5T	Describe pharmacokinetic concepts and mathe matical models used to study drug concentrati on–time profiles. Parameters such as half-life, clearance, volume of distribution, and AUC fr om plasma concentration–time data.	Understand (L2) Apply (L3)
3	CO3: PD:4.5T	Analyze one-compartment and multi- compartment open models following intravenous and extravascular administration.	Apply (L3) Analyze (L4)
4	CO 4: PD:4.5T	Evaluate multiple-dose regimens and nonlinear pharmacokinetic behavior of drugs.	Analyze (L4) Evaluate (L5)
5	CO 5:PD:4.5T	Assess bioavailability, bioequivalence, and non-compartmental pharmacokinetic approaches for drug evaluation.	Evaluate (L5) Analyze (L4)

YEAR IV		SUB: Biopharmaceutics And Pharmacokinetics - Practical	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1	CO 1: PD:4.5 P	Describe the fundamental principles involved i n dissolution, bioavailability, and plasma prote in binding experiments.	Knows (Level 1)
2	CO 2: PD:4.5 P	Apply biopharmaceutical principles to analyze dissolution data and interpret the behavior of drug solubility.	Knows How (Level 2)
3	CO3: PD:4.5 P	Demonstrate dissolution testing and polymorphism studies using standard laboratory procedures.	(Level 3) Shows How
4	CO 4: PD:4.5 P	Perform plasma protein binding experiments and calculate pharmacokinetic parameters from experimental data.	Level 4 (Does)
5	CO 5:PD:4.5 P	Independently conduct and interpret bioavailability or bioequivalence–related experiments to evaluate absorption and elimination kinetics.	Level 4 (Does)

YEAR IV		SUB: Clinical Toxicology-Theory	
SL NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO 1: PD:4.6T	Explain the basic principles, scope, and importance of clinical toxicology in healthcare practice.	Understand
2	CO 2: PD:4.6T	Identify and describe the sources, mechanisms, and health effects of common toxic agents and poisons.	Understand

3	CO3: PD:4.6T	Apply the principles of toxicokinetic and toxicodynamic in the assessment of poisoning cases.	Apply
4	CO 4: PD:4.6T	Analyse clinical signs, symptoms, and laboratory findings to assess and manage toxic exposures.	Analyse
5	CO 5:PD:4.6T	Evaluate appropriate treatment strategies, antidotes, and preventive measures for specific toxic substances.	Evaluate

PUSHPAGIRI
COLLEGE OF PHARMACY
MEDICITY CAMPUS, PERUMTHURUTHY

ACCREDITED BY NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

COURSE OUTCOME: Pharm D

COLLEGE	**Pushpagiri College of Pharmacy**
COURSE	**Pharm D (PB)**
BATCH	**2025-2026**

YEAR I		SUB: Pharmacotherapeutics I & II Theory	
SL NO	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1: PD 1.1	Explain the pathophysiology, clinical features, and pharmacological management of cardiovascular, respiratory, endocrine, renal, ophthalmic, dermatological, and musculoskeletal disorders.	Understand (Level 2)
2	CO2: PD 1.1	Apply pharmacotherapeutic principles in the management of diseases such as hypertension, diabetes, asthma, COPD, tuberculosis, infections, arthritis, renal failure, and dermatological disorders.	Apply (Level 3)
3	CO3: PD 1.1	Analyze and design patient-specific drug therapy plans considering special populations including paediatric, geriatric, pregnant, and lactating patients.	Analyze (Level 4)
4	CO4: PD 1.1	Evaluate the rational use of drugs, including antibiotics, essential medicines, rational formulations, and chemotherapy regimens for infectious diseases and cancer.	Evaluate (Level 5)

5	CO5: PD 1.1	Assess and manage drug-related problems, adverse effects, drug- induced organ disorders, and supportive care such as management of chemotherapy-induced nausea and emesis.	Analyze / Evaluate (Level 4–5)

YEAR I		SUB: Pharmacotherapeutics I&II (Practical)	
SL. NO:	**COURSE CODE**	**DESCRIPTION**	**MILLER'S PYRAMID LEVEL**
1.	CO1: PD 1.1 P	Apply pharmacotherapeutic knowledge to identify disease conditions, drug-related problems, and appropriate treatment strategies during hospital postings.	Knows How
2.	CO2: PD 1.1 P	Demonstrate participation in ward rounds by collecting patient-specific clinical data and m onitoring changes in drug therapy.	Shows How
3.	CO3: PD 1.1 P	Prepare, document, and present systematic clinical case reports covering diagnosis, treatment rationale, and outcomes.	Shows How
4.	CO4: PD 1.1 P	Independently follow up, manage, and record a minimum of 20 patient cases covering common diseases with appropriate clinical documentation.	Does
5.	CO5: PD 1.1 P	Critically analyze recent advances in drug therapy through written assignments and oral presentations using evidence-based resources.	Does

YEAR V		SUB: Clinical Research- Theory	
Sl. No:	**Course Code**	**Description**	**Bloom's Level**
1.	CO1: PD 5.1 T	Explain the drug development process, including drug discovery approaches, toxicological evaluation, IND application, and dosage form development.	Understand (L2)
2.	CO2: PD 5.1 T	Describe the clinical development of drugs b y outlining phases of clinical trials, post-mark eting surveillance methods, and regulatory su bmissions such as NDA and ANDA.	Understand (L2)
3.	CO3: PD 5.1 T	Apply principles of Good Clinical Practice (ICH-GCP), ethical guidelines, and regulatory requirements in the conduct of clinical research.	Apply (L3)
4.	CO4: PD 5.1 T	Analyze the roles and responsibilities of clinical trial personnel (sponsor, investigator, CRA, auditor, CRC, and regulatory authorities) and the functioning of IEC/IRB.	Analyze (L4)
5.	CO5: PD 5.1 T	Develop essential clinical trial documents (protocol, CRF, ICF, PIC) and evaluate data management and safety monitoring processes in clinical trials.	Create (L6)

YEAR V		SUB: Pharmacoepidemiology & Pharmacoeconomics Theory	
SL. NO.	COURSE CODE	DESCRIPTION	BLOOM'S LEVEL
1	CO1: PD.5.2 T	Describe the definition, scope, origin, need, aims, and applications of pharmacoepidemiology in the evaluation of drug use and drug effects in populations.	Understand (L2)
2	CO2: PD.5.2 T	Explain outcome measures and drug use measures including prevalence, incidence, incidence rate, monetary units, number of prescriptions, units of drugs dispensed, defined daily doses (DDD), prescribed daily doses (PDD), and methods for measuring medication adherence.	Understand (L2)
3	CO3: PD.5.2 T	Apply the concept of risk in pharmacoepidemiology, including measurement of risk, attributable risk, relative risk, odds ratio, and time–risk relationship, to assess drug safety and effectiveness.	Apply (L3)
4	CO4: PD.5.2 T	Analyze pharmacoepidemiological methods such as drug utilization review, case reports, case series, surveys of drug use, cross-sectional studies, cohort studies, case-control studies, case–cohort studies, meta- analysis, spontaneous reporting, prescription event monitoring, and record linkage systems using case studies.	Analyze (L4)

5	CO5: PD.5.2 T	Evaluate pharmacoeconomic principles and methods including cost-minimization, cost-benefit, cost-effectiveness, and cost-utility analyses, and apply pharmacoeconomic evidence in formulary management and healthcare decision-making.	Evaluate (L5)

YEAR V		SUB: Pharmacokinetics And TDM - Theory	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:P 5.3T	Explain the principles of clinical pharmacokinetics and their application in optimizing drug therapy.	Level 2 – Understand
2	CO2: P 5.3T	Design and calculate individualized dosage regimens using pharmacokinetic principles, nomograms, and tabulations for normal and special populations.	Level 3 – Apply
3	CO3:P 5.3T	Analyze pharmacokinetic drug interactions including enzyme inhibition, enzyme induction, and altered biliary excretion, and assess their clinical relevance.	Level 4 – Analyze
4	CO4: P 5.3T	Apply the principles of Therapeutic Drug Monitoring (TDM) and pharmacokinetic–pharmacodynamic correlations to individualize drug therapy in various disease conditions.	Level 3 – Apply

5	CO5: P 5.3T	Evaluate and apply dosage adjustment strategies in renal and hepatic impairment by integrating population pharmacokinetics and pharmacogenetic considerations.	Level 4 – Analyze

YEAR II		SUB: Clinical Research- Theory	
SL. NO:	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1.	CO1: PD 5.1 T	Explain the drug development process, including drug discovery approaches, toxicological evaluation, IND application, and dosage form development.	Understand (L2)
2.	CO2: PD 5.1 T	Describe the clinical development of drugs b y outlining phases of clinical trials, post-mark eting surveillance methods, and regulatory su bmissions such as NDA and ANDA.	Understand (L2)
3.	CO3: PD 5.1 T	Apply principles of Good Clinical Practice (ICH-GCP), ethical guidelines, and regulatory requirements in the conduct of clinical research.	Apply (L3)
4.	CO4: PD 5.1 T	Analyze the roles and responsibilities of clinical trial personnel (sponsor, investigator, CRA, auditor, CRC, and regulatory authorities) and the functioning of IEC/IRB.	Analyze (L4)
5.	CO5: PD 5.1 T	Develop essential clinical trial documents (protocol, CRF, ICF, PIC) and evaluate data management and safety monitoring processes in clinical trials.	Create (L6)

YEAR II		SUB: Pharmacoepidemiology & Pharmacoeconomics - Theory	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1	Describe the definition, scope, origin, need, aims, and applications of pharmacoepidemiology in the evaluation of drug use and drug effects in populations.	Understand (L2)
2	CO2	Explain outcome measures and drug use measures including prevalence, incidence, incidence rate, monetary units, number of prescriptions, units of drugs dispensed, defined daily doses (DDD), prescribed daily doses (PDD), and methods for measuring medication adherence.	Understand (L2)
3	CO3	Apply the concept of risk in pharmacoepidemiology, including measurement of risk, attributable risk, relative risk, odds ratio, and time–risk relationship, to assess drug safety and effectiveness.	Apply (L3)
4	CO4	Analyze pharmacoepidemiological methods such as drug utilization review, case reports, case series, surveys of drug use, cross-sectional studies, cohort studies, case-control studies, case–cohort studies, meta- analysis, spontaneous reporting, prescription event monitoring, and record linkage systems using case studies.	Analyze (L4)

5	CO5	Evaluate pharmacoeconomic principles and methods including cost- minimization, cost-benefit, cost-effectiveness, and cost-utility analyses, and apply pharmacoeconomic evidence in formulary management and healthcare decision-making.	Evaluate (L5)

YEAR II		SUB: Pharmacokinetics And TDM -Theory	
SL. NO.	**COURSE CODE**	**DESCRIPTION**	**BLOOM'S LEVEL**
1	CO1:P 5.3T	Explain the principles of clinical pharmacokinetics and their application in optimizing drug therapy.	Level 2 – Understand
2	CO2: P 5.3T	Design and calculate individualized dosage regimens using pharmacokinetic principles, nomograms, and tabulations for normal and special populations.	Level 3 – Apply
3	CO3:P 5.3T	Analyze pharmacokinetic drug interactions including enzyme inhibition, enzyme induction, and altered biliary excretion, and assess their clinical relevance.	Level 4 – Analyze
4	CO4: P 5.3T	Apply the principles of Therapeutic Drug Monitoring (TDM) and pharmacokinetic–pharmacodynamic correlations to individualize drug therapy in various disease conditions.	Level 3 – Apply
5	CO5: P 5.3T	Evaluate and apply dosage adjustment strategies in renal and hepatic impairment by integrating population pharmacokinetics and pharmacogenetic considerations.	Level 4 – Analyze

UNIVERSITY GRANTS COMMISSION BAHADUR SHAH
ZAFAR MARG NEW DELHI - 110 001

UGC DRAFT REGULATIONS ON CURBINGTHE MENACE OF RAGGING IN HIGHER EDUCATIONAL INSTITUTIONS, 2009

In exercise of the power conferred by Clause (g) of Sub- Section (1) of Section 26 of the University Grants CommissionAct, 1956, the University Grants Commission hereby maked the following Regulations, namely:-

1. Title, Commencement and Applicability

1.1 These regulations shall be called the "UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009".

1.2 They shall come into force from the date of their publication in the Official Gazette.

1.3 They shall apply to all the institutions coming within the definition of an University under sub-section (f) of section (2) of the University Grants Commission Act, 1956, and to all institutions deemed to be a university under Section 3 of the University Grants Commission Act, 1956, to all other higher educational institutions, or elements of such universities or institutions, including its departments, constituent units and all the premises, whether being academic, residential, playgrounds, canteen, or other such premises of such universities, deemed universities and higher educational institutions.

2. Objectives

To prohibit any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student, or indulging in rowdy or in disciplined activities by and student or students which causesor is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in any fresheror any other student or asking any student to do any act whichsuch student will not in the ordinary course do and whichhas the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any other student, withor without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresheror any other student; and thereby, to eliminate ragging in all its forms from universities, deemed universities and other higher educational institutions in the country by prohibitingit under these Regulations, preventing its occurrence and punishing those who indulge in ragging, 'as provided for in these Regulations and the appropriate law in force.

3. What Constitutes Ragging

Ragging constitutes one or more of any of the following acts:

a. any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student;

b. indulging in rowdy or indisciplined activities by any student or students which causes or is likely to cause annoyance, hardship, physical or psychological harm or to raise fear or apprehension thereof in any fresher or any other, student;

c. asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment as to adversely affect the physique or psyche of such fresher or any other student;

d. any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher;

e. exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.

f. any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students;

g. any act of physical abuse including all variants of it: sexual abuse, homosexual assaults, stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health or person;

h. any act or abuse by spoken words, emails, post, public insults which would also include deriving perverted pleasure, vicarious or sadistic thrill from actively or passively participating in the discomfiture to fresher or any other student;

i. any act that affects the mental health and self- confidence of a fresher or any other student with or without and intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student.

4. Definitions

(1) In these regulations unless the context otherwise requires;

a) "Act" means, the University Grants Commission Act, 1956 (3 of 1956);

b) "Academic year" means the period from the commencement of admission of students in any course of study in the institution up to the completion of academic requirements for that particular year.

c) "Anti-Ragging Helpline" means the Helpline established under clause (a) of Regulation 8.1 of these Regulations.

d) "Commission" means the University Grants Commission.

e) "Council" means a body so constituted by an Act of Parliament or an Act of any State Legislature for setting, or co-ordinating or maintaining standards in the relevant areas of higher education, such as the All India Council for Technical Education (AICTE), the Bar Council of India (BCI), the Dental

Council of India (DCI), the Distance Education Council (DEC), the Indian Council of Agricultural Research (ICAR), the Indian Nursing Council (INC), the Medical Council of India (MCI), the National Council for Teacher Education (NCTE), the Pharmacy Council of India (PCI), etc. and the state Higher Education Councils.

f) "District Level Anti-Ragging-Committee" means the Committee, headed by the District Magistrate, constituted by the State Government, for the control and elimination of ragging institutions within the jurisdiction of the district.

g) "Head of the institution" means the Vice-Chancellor in case of a university or a deemed to be university, the Principal or the Director or such other designation as the executive head of the institution or the college is referred.

h) "Fresher" means a student who has been admitted to an institution and who is undergoing his/her first year of study in such institution.

i) "Institution" means a higher educational institution including, but not limited to an university, a deemed to be university, a college, and institute, and institution of national importance set up by an Act of Parliament or a constituent unit of such institution, imparting higher education beyond 12 years of schooling leading to, but not necessarily culminating in, a degree (graduate, Postgraduate and/or higher level) and/or to a university diploma.

j) "NAAC" means the National Academic and Accreditation Council established by the Commission under section 12 (ccc) of the Act;

k) "State Level Monitoring Cell" means the body constituted by the State Government for the control and elimination of ragging in institutions within the jurisdiction of the State, established under a State Law or on the advice of the Central Government, as the case may be.

(2) Words and expressions used and not defined herein but defined in the Act or in the General Clauses Act, 1897, shall have the meanings respectively assigned to them in the Act or in the General Clauses Act, 1897, as the case may be.

5. Measures for prohibition of Ragging at the Institution Level

a) No institution or any part of it thereof, including its elements, including, but not limited to, the departments, constituent units, colleges, centers of studies and all its premises, whether academic, residential, playgrounds, or canteen, whether located within the campus or outside, and in all means of transportation of students, whether public or private, accessed by students for the pursuit of studies in such institutions, shall permit or condone any reported incident of ragging in any form; and all institutions shall take all necessary and required measures including but not limited to the provisions of these Regulations, to achieve the objective of eliminating ragging, within the institution or outside,

b) All institutions shall take action in accordance with these Regulations against those found guilty of ragging and/or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

6. Measures for Prevention of Ragging at the Institution Level

6.1 An institution shall take the following steps in regard to admission or registration of students; namely:

a) Every public declaration of intent by any institution, in any electronic, audio-visual or print or any other media, for admission of students to any course of study shall expressly provide that ragging is totally prohibited in the institution, and anyone found guilty of ragging and or abetting ragging, whether actively or passively, or being a part of a conspiracy to promote ragging, is liable to be punished in accordance with these Regulations as well as under the provisions of any penal law for the time being in force.

b) The brochure of admission/instruction booklet or the prospectus, whether in print or electronic format, shall prominently print these Regulations in full.

Provided that the institution shall also draw attention to any law concerning ragging and its consequences, as may be applicable to the institution publishing such brochure of admission/instruction booklet or the prospectus.

Provided further that the telephone numbers of the Anti-Ragging Helpline and all the important functionaries in the institution, including but not limited to the Head of the institution, faculty members, members of the Anti- Ragging Committees and Anti-Ragging Squads, District and Sub-Divisional authorities, Wardens of hostels, and other functionaries or authorities where relevant, shall be published in the brochure of admission/instruction booklet or the prospectus.

c) Where an institution is affiliated to a University and publishes a brochure of admission/instruction booklet or a prospectus, the affiliating university shall ensure that the affiliated institution shall comply with the provisions of clause (a) and clause (b) of Regulation 6.1 of these Regulations.

d) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily in English and in Hindi and/or in one of the regional languages know to the applicant, as provided in the English language in Annexure I to these Regulations, to be filled up and signed by the applicant to the effect that he/she has read and understood the provisions of these Regulations as well as the provisions of any other law for the time being in force, and is aware of the prohibitions of ragging and the punishments prescribed, both under penal laws as well as under these Regulations and also affirm to the effect that he/she has not been expelled and/or debarred by any institution and further aver that he/she would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, is liable to be proceeded against under these Regulations or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of such student,

e) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily in English and in Hindi and/or in one of the regional languages known to the parents/guardians of the applicant, as provided in the English language in Annexure 1 to these Regulations, to be filled up and signed-by the parents/guardians of the applicant to the effect that he/she has read understood the provisions of these Regulations and also affirm to the effect that his / her ward, has not been expelled and/or debarred by any institution and further aver that his/her ward would not indulge, actively or passively, in the act or abet the act of ragging and/or abetting ragging, his/her ward is liable to be proceeded against under these Regulations or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of his/her ward.

f) The application for admission shall be accompanied by a document in the form of, or annexed to, the School Leaving Certificate/Transfer Certificate/ Migration Certificate/Character Certificate reporting on the inter- personal/social behavioural pattern of the applicant, to be issued by the school or institution last attended by the applicant, so that the institution can thereafter keep watch on the applicant, if admitted, whose behaviour has been commented in such document.

g) A student seeking admission to a hostel forming part of the institution, or seeking to reside in any temporary premises not forming part of the institution, including a private commercially managed lodge or hostel, shall have to submit additional affidavits countersigned by his/her parents/guardians in the form prescribed in Annexure I and Annexure II to these Regulations respectively along with his/her application.

h) Before the commencement of the academic session in any institution, the Head of the Institution shall convene and address a meeting of various functionaries/ agencies, such as Hostel Wardens, representatives of students, parents/ guardians, faculty, district administration including the police, to discuss the measures to be taken to prevent ragging in the institution and steps to be taken to identify those indulging in or abetting ragging and punish them.

i) The institution shall, to make the community at large and the students in particular aware of the dehumanizing effect of ragging, and the approach of the Institution towards those indulging in ragging, prominently display posters depicting the provisions of penal law applicable to incidents of ragging, and the provisions of these Regulations and also any other law for the time being in force, and the punishments thereof, shall be prominently displayed on Notice Board of all department, hostels and other buildings as well as at places,: where students normally gather and at places, known to be vulnerable to occurrences of ragging incidents.

j) The institution shall request the media to give adequate publicity to the law prohibiting ragging and the negative aspects of ragging and the institution's resolve to ban ragging and punish those found guilty without fear or favour.

k) The institution shall identify, properly illuminate and keep a close watch on all locations known to be vulnerable to occurrences of ragging incidents.

l) The institution shall tighten security in its premises, especially at vulnerable places and intense policing by Anti-ragging Squad, referred to in these Regulations and volunteers, if any, shall be resorted to at such points at odd hours during the first few months of the academic session.

m) The institution shall utilize the vacation period before the start of the new academic year to launch a publicity campaign against ragging through posters, leaflets and such other means, as may be desirable or required, to promote the objectives of these Regulations.

n) The faculties/departments/units of the institution shall have induction arrangements, including those which anticipate, identify and plan to meet any special needs of any specific section of students, in place well in advance of the beginning of the academic year with an aim to promote the objectives of this Regulation.

o) Every institution shall engage or seek the assistance of professional counselors before the commencement of the academic session, to be available when required by the institution, for the purposes of offering counseling to freshers and to other students after the commencement of the academic year.

p) The head of the institution shall provide information to the local police and local authorities, the details of every privately commercially managed hostels or lodges used for residential purposes by students enrolled in the institution and the head of the institution shall also ensure that the Anti-ragging squad shall ensure vigil in such locations to prevent the occurrence of ragging therein.

6.2 An institution shall, on admission or enrolment or registration of students, take the following steps, namely:

a) Every fresh student admitted to the institution shall be given a printed leaflet detailing to whom he/she has to turn to for help and guidance for various purposes including addresses and telephone number, so as to enable the student to contact the concerned person at any time, if and when required, of the Anti-ragging Helpline referred to in these Regulations, Wardens, Head of the institution, all members of the anti-ragging squads and committees, relevant district and police authorities.

b) The institution, through the leaflet specified in clause (a) of Regulation 6.2 of these Regulations shall explain to the freshers, the arrangements made for their induction and orientation which promote efficient and effective means of integrating them fully as students with those already admitted to the institution in earlier years.

c) The leaflet specified in clause (a) of Regulation 6.2 of these Regulations shall inform the freshers about their rights as bona fide students of the institution and clearly instructing them that they should desist from doing anything, with or against thier will, even if ordered to by the senior students, and that any attempt of ragging shall to be promptly reported to the Anti-ragging Squad or to the Warden or to the Head of the institution, as the case may be.

d) The leaflet specified in clause (a) of Regulation 6.2 of these Regulations shall contain a calendar of events and activities laid down by the institution to facilitate and complement familiarization of freshers with the academic environment of the institution.

e) The institution shall, on the arrival of senior students after the first week or after the second week, as the case may be, schedule orientation programmes as follows, namely; (i) joint sensitization programme and counseling of both freshers and senior students by a professional counselor, referred to in clause (o) of Regulation 6.1 of these Regulations; (ii) joint orientation programme of freshers and seniors to be addressed by the Head of the institution and the antiragging committee; (iii) organization on a large scale of cultural, sports and other activities to provide a platform for the freshers and seniors to interact in the presence of faculty members; (iv) in the hostel, the warden should address all students; and may request two junior colleagues from the college faculty to assist the warden by becoming resident tutors for a temporary duration (v) as far as possible faculty members should dine with the hostel residents in their respective hostels to instila feeling of confidence among the freshers.

f) The institution shall set up appropriate committees, including the course-in-charge, student advisor, Wardens and some senior students as its members, to actively monitor, promote and regulate healthy interaction between the freshers, junior students and senior students.

g) Freshers or any other student(s), wether being victims, or witnesses, in any incident of ragging, shall be encouraged to report such occurrence, and the identity of such informants shall be protected and shall not be subject to any adverse consequence only for the reason for having reported such incidents.

h) Each batch of freshers, on arrival at the institution, shall be divided into small groups and each such group shall be assigned to a member of the faculty, who shall interact individually with each member of the group every day for ascertaining the problems or difficulties, if any, faced by the fresher in the institution and shall extend necessary help to the fresher in overcoming the same.

i) It shall be the responsibility of the member of the faculty assigned to the group of freshers, to coordinate with the Wardens of the hostels and to make surprise visits to the rooms in such hostels, where a member or members of the group are

lodged; and such member of faculty shall maintain a diary of his/her interaction with the freshers under his/her charge.

j) Freshers shall be lodged, as far as may be, In a separate hostel block, ant such facilities are not available, the institution shall ensure that access of to accommodation allotted to freshers is strictly monitored by wardens, squads and other staff of the institution.

k) A round the clock vigil against ragging in the hostel premises, in order to prevent ragging in the hostels after the classes are over, shall be ensured by the institution.

l) It shall be the responsibility of the parents/guardians of freshers to promptly bring any instance of ragging to the notice of the Head of the Institution.

m) Every student studying in the institution and his/her parents/guardians shall provide the specific affidavits required under clauses "(d), (e) and (g) Regulation 6 of these Regulations at the time of admission or registration, as the case may be, during each academic year.

n) Every institution shall obtain the affidavit from every student as referred to above in clause (m) of Regulation 5.2 and maintain a proper record of the same and "to ensure its safe upkeep thereof, including maintaining the copies of the affidavit in an electronic form, to be accessed easily when required either by the Commission or any of the Councils or by the institution or by the affiliating University or by any other person or organisation authorised to do so.

o) Every student at the time of his/her registration shall inform the institution about his/her place of residence while pursuing the course of study, and in case the student has not decided his/her place of residence or intends to change the same, the details of his place of residence shall be provided immediately on deciding the same; and specifically in regard to a private commercially managed lodge or hostel where he/she has taken up residence.

p) The Head of the institution shall, on the basis of the information provided by the student under clause (o) of Regulation 6.2, apportion sectors to be assigned to members of the faculty, so that such member of faculty can maintain vigil and report any incident of ragging outside the campus or en route while commuting to the institution using any means of transportation of students, whether public or private.

q) The Head of the institution shall, at the end of each academic year, send a letter to the parents/guardians of the students who are completing their first year in the institution, informing them about these Regulations and any law for the time being in force prohibiting ragging and the punishments thereof as well as punishments prescribed under the penal laws, and appealing to them to impress upon their

wards to desist from indulging in ragging -on-their return to the institution at the beginning of the academic session next.

5.3 Every institution shall constitute the following bodies; namely,

a) Every institution shall constitute a Committee to be known as the Anti-ragging Committee to be nominated and headed by the Head of the institution, and consisting of representatives of civil and police administration, local media, Non-Government Organizations involved in youth activities, representatives of students belonging to the freshers' category as well as senior students, non-teaching staff; and shall have a diverse mix of membership in terms of levels as well as gender.

b) It shall be the duty of the Anti-ragging Committee to ensure compliance with the provisions of these Regulations as well as the provisions of any law for the time being in force concerning ragging; and also to monitor and oversee the performance of the Anti-ragging Squad in prevention of ragging in the institution.

c) Every institution shall also constitute a smaller body to be known as the Anti-ragging Squad to be nominated by the Head of the Institution with such representation as may be considered necessary for maintaining vigil, oversight and patrolling functions and shall remain mobile, alert and active at all times.

Provided that the Anti-ragging Squad shall have representation of various members of the campus community and shall have no outside representation.

d) It shall be the duty of the Anti-ragging Squad to be called upon to make surprise raids on hostels, and other places venerable to incidents of, and having the potential of, ragging and shall be empowered to inspect such places.

e) It shall also be the duty of the Anti-ragging Squad to conduct an on the spot enquiry into any incident of ragging referred to it by the Head of institution or any member of the faculty or any member of the staff or any student or any parent or guardian or any employee of a service provider or by any other person, as the case may be; and the enquiry report along with recommendations shall be submitted to the Anti- Ragging Committee for action under clause (a) of Regulation 9.1.

Provided that the Anti-ragging Squad shall conduct such enquiry observing a fiar and transparent procedure and the principles of natural justice and after giving adequate opportunity to the student or students accused of ragging and other witnesses to place before it the facts, documents and views concerning the incident of ragging, and considering such other relevant information as may be required.

f) Every institution shall, at the end of each academic year, in order to promote the objectives of these Regulations, constitute a Mentoring Cell consisting of

students volunteering to be Mentors for freshers, in the succeeding academic year; and there shall be as many levels or tiers of Mentors as the number of batches in the institution, at the rate of one Mentor for six freshers and one Mentor of a higher level for six Mentors of the lower level.

g) Every University shall constitute a body to be known as Monitoring Cell on Ragging, which shall coordinate with the affiliated colleges and institutions under the domain of the University to achieve the objectives of these Regulations; and the Monitoring Cell shall call for reports from the Heads of institutions in regard to the activities of the Anti-ragging Committees, Anti-ragging Squads, and the Mentoring Cells at the Institutions, and it shall also keep itself abreast of the decisions of the District level Anti-ragging Committee headed by the District Magistrate.

h) The Monitoring Cell shall also review the efforts made by institutions to publicize anti-ragging measures, soliciting of affidavits from parents/guardians and from students, each academic year, to abstain from ragging activities or willingness to be penalized for violations; and shall function as the prime mover for imitating action on the part of the appropriate authorities of the university for amending the Statutes or Ordinances or Bye-laws to facilitate the implementation of anti-ragging measures at the level of the institution.

5.4 Every institution shall take the following other measures, namely;

a) Each hostel or a place where groups of students reside, forming part of the institution, shall have a full-time Warden, to be appointed by the institution as per eligibility criteria laid down for the post reflecting both the command and control aspects of maintaining discipline and preventing incidents of ragging within the hostel, as well as the softer skills of counseling and communicating with the youth outside the class-room situation; and who shall reside within the hostel, or at the very least, in the close vicinity thereof

b) The Warden shall be accessible at all hours and be available on telephone and other modes of communication, and for the purpose. The Warden shall be provided with a mobile phone by the institution, the number of which shall be publicised among all students residing in the hostel.

c) The institution shall review and suitably enhance the powers of Wardens; and the security personnel posted in hostels shall be under the direct control of the Warden and their performance shall be assessed by them.

d) The professional counselors referred to under clause

(o) of Regulation 6.1 of these Regulations shall, at the time of admission, counsel freshers and/or any other student(s) desiring counseling, in order to prepare them for the life ahead, particularly in regard to the life in hostels and to the extent possible, also involve parents and teachers in the counseling sessions.

e) The institution shall undertake measures for extensive publicity against ragging by means of audio-visual aids, counseling sessions, workshops, painting and design competitions among students and such other measures, as it may deem fit.

f) In order to enable a student or any person to communicate with the Anti-ragging Helpline, every institution shall permit unrestricted access to mobile phones and public phones in hostels and campuses, other than in class-rooms, seminar halls, library, and in such other places that the institution may deem it necessary to restrict the use of phones.

g) The faculty of the institution and its non-teaching staff, which includes but is not limited to the administrative staff, contract employees, security guards and employees of service providers providing services within the institution, shall be sensitized towards the ills of ragging, its preventation and the consequences thereof.

h) The institution shall obtain an undertaking from every employee of the institution including all teaching and non-teaching members of staff, contract labour employed in the premises either for running canteen or as watch and ward staff or for cleaning or maintenance of the buildings/lawns and employees of service providers providing services within the institution, that he/she would report promptly any case of ragging which comes to his/her notice.

i) The institution shall make a provision in the service rules of its employees for issuing certificates of appreciation to such members of the staff who report incidents of ragging which will form part of their service record.

j) The institution shall give necessary instructions to the employees of the canteens and messing, whether that of the institution or that of a service provider providing this service, or their employers, as the case may be, to keep a strict vigil in the area of their work and to report the incidents of ragging to the Head of the institution or members of the Anti-Ragging Squad or members of the Anti-Ragging Committee or the Wardens, as may be required.

k) All Universities awarding a degree in education at any level, shall be required to ensure that institutions imparting instruction in such courses or conducting training programme for teachers include inputs relating to anti-ragging and the appreciation of the relevant human rights, as well as inputs on topics regarding sensitization against corporal punishments and checking of bullying amongst students, so that every teacher is equipped to handle at least the rudiments of the counseling approach.

l) Discreet random surveys shall be conducted amongst the freshers every fortnight during the first three months of the academic year to verify and cross check whether the institution is indeed free of ragging or not and for the purpose the institution may design its own methodology of conducting such surveys.

m) The institution shall cause to have an entry, apart from those relating to general conduct and behaviour, made in the Migration/Transfer Certificate issued to the student while leaving the institution, as to whether the student has been punished for committing or abetting an act of ragging, as also whether the student has displayed persistent violent or aggressive behaviour or any inclination to harm others, during his course of study in the institution.

n) Not withstanding anything contained in these Regulations with regard to obligations and responsibilities pertaining to the authorities or members of bodies prescribed above, it shall be the general collective responsibility of all levels and sections of authorities or functionaries including members of the faculty and employees of the institution, whether regular or temporary, and employees of service providers providing service within the institution, to prevent or to act promptly against the occurrence of ragging or any incident of ragging which comes to their notice.

o) The Heads of Institutions affiliated to a University or a constituent of the University, as the case may be, shall, during the first three months of an academic year, submit a weekly report on the status of compliance with Anti-ragging measures under these Regulations, and a monthly report on such status thereafter, to the Vice- Chancellor of the University to which the institution is affiliated to or recognized by.

p) The Vice Chancellor of each University, shall submit fortnightly reports of the University, including those of the Monitoring Cell of Ragging in case of an affiliating university, to the State Level Monitoring Cell.

7. Action to be taken by the Head of the Institution

On receipt of the recommendation of the Anti-ragging Squad or on receipt of any information concerning any reported incident of ragging, the Head of institution shall immediately determine if a case under the penal laws is madeout and if so, either on his own or through a member of the Anti-ragging Committee authorized by him in this behalf, proceed to file a First Information Report (FIR), within twentyfour hours of receipt of such information or recommendation,with the police and local authorities, under the appropriate penal provisions relating to one or more of the following,namely;

i Abetment to ragging;

ii Criminal conspiracy to rag;

iii Unlawful assembly and rioting while ragging; iv Public nuisance created during ragging;

v Violation of decency and morals through ragging;

vi Injury to body, causing hurt or grievous hurt;

vii Wrongful restraint;

viii Wrongful confinement;

ix Use of criminal force;

x Assault as well as sexual offences or unnatural offences;

xi Extortion;

xii Criminal trespass;

xiii Offences against property; xiv Criminal intimidation;

xv Attempts to commit any or all of the above mentioned offences against, the victim (s);

xvi Threat to commit any or all of the above mentioned offences against the victims (s);

xvii Physical or psychological humiliation;

xviii All other offences following from the definition of "Ragging":

Provided that the Head of the institution shall forth withreport the occurrence of the incident of ragging to the District Level Anti-ragging Committee and the Nodal officerof the affiliating University, if the institution is an affiliated institution.

Provided further that the institution shall also continuewith its own enquiry initiated under clause 9 of these Regulations and other measures without waiting for action on the part of the police/local authorities and such remedialaction shall be initiated and completed immediately and in no case later than a period of seven days of the reported occurrence of the incident of ragging.

8. Duties and Responsibilities of the Commission and the Councils

8.1 The Commission shall, with regard to providing facilitating communication of information regarding incidents of ragging in any institution, take the following steps, namely;

a) The Commission shall establish, fund and operate, a toll-free Anti-ragging Helpline, operational round the clock, which could be accessed by students in distress owing to ragging related incidents.

b) Any distress message received at the Anti-ragging helpline shall be simultaneously relayed to the Head of the Institution, the Warden of the Hostels, the Nodal Officer of the affiliating University, if the incident reported has taken place in an institution affiliated to a University, the concerned District authorities and if so required, the District Magistrate, and the Superintendent of Police, and shall also be web enabled so as to be in the public domain simultaneously for the media and citizens to access it.

c) The Head of the institution shall be obliged to act immediately in response to the information received from the Anti-Ragging Helpline, as at sub-clause (b) of this clause.

d) The telephone numbers of the Anti-Ragging Helpline and all the important functionaries in every institution, Heads of institutions, faculty members, members of the anti- ragging committees and anti ragging squads, district and sub-divisional authorities and state authorities, Wardens of hostels, and other functionaries or authorities where relevant, shall be widely disseminated for access or to seek help in emergencies.

e) The Commission shall maintain an appropriate data base to be created out of affidavits, affirmed by each student and his/her parents/ guardians and stored electronically by the institution, either on its or through an agency to be designated by it; and such database shall also function as a record of ragging complaints received, and the status of the action taken thereon.

f) The Commission shall make available the database to a non-governmental agency to be nominated by the Central Government, to build confidence in the public and also to provide information of noncompliance with these Regulations to the Councils and to such bodies as may be authorized by the Commission or by the Central Government.

8.2 The Commission shall take the following regulatory steps, namely:

a) The Commission shall make it mandatory for the institutions to incorporate in their prospectus, the directions of the Central Government or the State Level Monitoring Committee with regard to prohibition and consequences of ragging, and that non-compliance with these Regulations and directions so provided, shall be considered as lowering of academic standards by the institution, therefore making it liable for appropriate action.

b) The Commission shall verify that the institutions strictly comply with the requirement of getting the affidavits from the students and their parents/guardians as envisaged under these Regulations.

c) The Commission shall include a specific condition in the Utilization Certificate, in respect of any financial assistance or grants-in-aid to any institution under any of the general or special schemes of the Commission, that the institution has complied with the anti-ragging measures.

d) Any incident of ragging in an institution shall adversely affect its accreditation, ranking or grading by NAAC or by any other authorised accreditation agencies while assessing the institution for accreditation, ranking or grading purposes.

e) The Commission may accord priority in financial grants-in-aid to those institutions, otherwise eligible to receive grants under section 12B of the Act, which report a blemish less record in terms of there being no reported incident of ragging.

f) The Commission shall constitute an Inter-council Committee, consisting of representatives of the various councils, the Non-governmental agency responsible for monitoring the database maintained by the Commission under clause (g) of Regulation 8.1 and such other bodies in higher education, to coordinate and monitor the anti- ragging measures in institutions across the country and to make recommendations from time to time; and shall meet at least once in six months each year.

g) The Commission shall institute and Anti-ragging Cell within the Commission as an institutional mechanism to provide secretarial support for collection of information and monitoring, and to coordinate with the State Level Monitoring Cell and University level Committees for effective implementation of anti-ragging measures, and the Cell shall also co-ordinate with the Non-governmental agency responsible for monitoring the database maintained by the Commission appointed under clause (g) of Regulation 8.1.

9. Administrative Action in the Event of Ragging

9.1 The institution shall punish a student found guilty of ragging after following the procedure and in the manner prescribed here in under:

a) The Anti-ragging Committee of the institution shall take an appropriate decision, in regard to punishment or otherwise, depending on the facts of each incident of ragging and nature and gravity of the incident of ragging established in the recommendations of the Anti-ragging Squad.

b) The Anti-ragging Committee may, depending on the nature and gravity of the guilt established by the Anti- ragging Squad, award, to those found guilty, one or more of the following punishments, namely:

i. Suspension from attending classes and academic privileges.

ii. Withholding/Withdrawing scholarship/fellowship and other benefits.

iii. Debarring from appearing in any test/examination or other evaluation process.

iv. Withholding results.

v. Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc.

vi. Suspension/expulsion from the hostel.

vii. Cancellation of admission.

viii. Rustication from the institution for period ranging from one to four semesters.

ix. Expulsion from the institution and consequent debarring from admission to any other institution for a specified period.

Provided that where the persons committing or abetting the act of ragging are not identified, the institution shall resort to collective punishment.

c) An appeal against the order of punishment by the Anti- ragging Committee shall lie,

i. in case of an order of an institution, affiliated to or constituent part, of a University, to the Vice-chancellor of the University;

ii. in case of an order of a University, to its Chancellor.

iii. in case of an institution of national importance created by an Act of Parliament, to the Chairman or Chancellor of the institution, as the case may be.

9.2 Where an institution, being constituent of, affiliated to or recognized by a University, fails to comply with any of the provisions of these Regulations or fails to curb ragging effectively, such University may take any one or more of the following actions, namely;

i. Withdrawal of affiliation/recognition or other privileges conferred.

ii. Prohibiting such institution from presenting any student or students then undergoing any program of study therein for the award of any degree/diploma of the University.

Provided that where an institution is prohibited from presenting its student or students, the Commission shall make suitable arrangements for the other students so as to ensure that such students are able to pursue their academic studies.

iii. Withholding grants allocated to it by the university, if any

iv. Withholding any grants channelized through the university to the institution.

v. Any other appropriate penalty within the powers of the university.

9.3 Where in the opinion of the appointing authority, a lapse is attributable to any member of the faculty or staff of the institution, in the matter of reporting or taking prompt action to prevent an incident of ragging or who display an apathetic or insensitive attitude towards complaints of ragging, or who fail to take timely steps, whether required under these Regulations or otherwise, to prevent an incident or incidents of ragging, then such authority shall initiate departmental disciplinary action, in accordance with the prescribed procedure of the institution, against such member of the faculty or staff.

Provided that where such lapse is attributable to the Head of the institution, the authority designated to appoint such Head shall take such departmental disciplinary action; and such action shall be without prejudice to any action that, may be taken under the penal laws for abetment of ragging for failure to take timely steps in the prevention of ragging or punishing any student found guilty of ragging.

9.4 The Commission shall, in respect of any institution that fails to take adequate steps to prevent ragging or fails to act in accordance with these Regulations or fails to punish perpetrators or incidents of ragging suitably, take one or more of the following measures, namely:

i. Withdrawal of declaration of fitness to receive grants under section 12B of the Act.

ii. Withholding any grant allocated.

iii. Declaring the institution. ineligible for consideration for any assistance under any of the general or special assistance program of the Commission.

iv. Informing the general public including potential candidates for admission, through a notice displayed prominently in the newspapers or other suitable media and posted on the website of the Commission, declaring that the institution does not possess the minimum academic standards.

v. Taking such other action within its powers as it may deem fit and impose such other penalties as may be provided in the Act for such duration of time as the institution complies with the provisions of these Regulations.

Provided that the action taken under this clause by the Commission against any institution shall be shared with all councils.

(Dr. R. K. Chauhan)
Secretary

ANNEXURE I AFFIDAVIT BY THE STUDENT

I, ----------

S/o, D/o, Mr./Mrs./Ms. ----------

having been admitted to ---------- have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the "Regulations") carefully "read and fully understood the provisions contained in the said Regulations.

2) I have, in particular: perused clause 3 of the Regulations and am aware as to what constitutes ragging.

3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

4) I hereby solemnly over and undertake that :

   a) I will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.

   b) I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.

5) I hereby affirm that, if found guilty of ragging, I am liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.

6) I hereby declare that I have not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, I am aware that my admission is liable to be cancelled.

Declared this ---------- day of ----------month of.----------year.

Signature of deponent :

Name:

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false andnothing has been concealed or misstated therein.

Verified at ---------- (Place) on this the ---------- (day) of---------- (Month) ---------- (Year)

Signature of deponent :

Solemnly affirmed and signed in my presence on this the

---------- (day) of ---------- (Month) ---------- (Year) after reading the contents of this affidavit.

OATH COMMISSIONER

ANNEXURE II AFFIDAVIT BY PARENT/GUARDIAN

I, Mr./Mrs./Ms ----------

father/mother/guardian of----------

having been admitted to----------

have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009,(hereinafter called the "Regulations") carefully "read and fullyunderstood the provisions contained in the said Regulations.

2) I have, in particular: perused clause 3 of the Regulations and am aware as to what constitutes ragging.

3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

4) I hereby solemnly over and undertake that :

   a) My ward will not indulge in any behaviour or act that may be constituted as ragging under clause 3 of the Regulations,

   b) My ward will not participate in or abet or propa- gate through any act of commission or omission that major be constituted as ragging under clause 3 of the Regulations.

5) I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.

6) I hereby declare that my ward has not been expelled or debarred from admission in any institution in the coun- try on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further af- firm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this ---------- day of ----------month of.----------year.

Signature of deponent :

Name :

Address :

Telephone/Mobile No. :

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false andnothing has been concealed or misstated therein.

Verified at ---------- (Place) on this the ---------- (day) of---------- (Month) ---------- (Year)

Signature of deponent :

Solemnly affirmed and signed in my presence on this the

---------- (day) of ---------- (Month) ---------- (Year) after reading the contents of this affidavit.

OATH COMMISSIONER

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