



## 1. About Pharmacy & Its Scope

Basically the course offers graduation in Pharmaceutical sciences which is the minimum qualification accepted for a registered pharmacist in most of the developed countries. This course teaches students how to prepare and dispense medicine and make the students to convey the drug related information to the public. Pharmacy enables graduates to clear doubts about the prescriptions given by the doctors and can give more valuable advices on the health care programmes. Pharmacy graduates are capable of evaluating drugs and drug use pattern. In the western countries, we understand diagnosis of the patients are done by the Doctors but the Pharmacists decide the medicines and their dosage. Therefore, **B.Pharma** and have important role and can earn attractive remuneration and can occupy strategic positions. In the fast developing world, research and Development (R & D) in the pharmaceutical industry is progressing and advancing at a very high speed which calls for pharmacy graduates with attractive financial package in spite of the economic crisis prevailing now. Graduates can attain highest qualification like Pharm D and demand higher salary. Graduates can look into most advancing branches in Genetic Engineering, Bio informatics, Nano Technology, Nuclear Pharmacology, Nutraceuticals, **B.Pharm, M.pharm.**

## 2. Why Pharmacy from P.K. University?

- Experienced & Dedicated Faculty
- world class Infrastructure
- Airy class rooms
- Wi-Fi enabled campus
- Regular monitoring of the students in studies
- Well Equipped laboratory with latest machineries
- Well Stocked library with DELNET facility
- Regular PDP classes
- Regular training & placement programs
- Excellent Industria -Academia Relationship
- Regular Sports & cultural Activites \

### 3. Scope of Pharmacy

- A career in pharmacy, unfolds a vista full of opportunities leading to a golden future for a young career aspirant. The job opportunities, working conditions, job satisfaction and monetary benefits are excellent. The various vocations a pharmacy professional can opt, for, are discussed below

Production

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Manufacturing

A pharmacy professional can work as a production person (chemist, officer, executive, manager, vice-president), involved in the production of bulk drug & intermediates or formulations and dosage forms. Industries manufacturing cosmetics, soaps, toiletries and dental products also hire pharmacy professionals. Blood and plasma products as well as biological & biotechnological products are other areas with immense potential worldwide. Production of biological & biotechnological products, surgical dressings, medical devices, equipment, ayurvedic/ homeopathic / unani medicines, veterinary medicine, perfumery, fragrances, nutraceuticals also involve the presence of pharmacy professionals in their production.

Research & Development

- This forms the heart of any industry, as it is the key to growth and sustenance. Mainly M. Pharms & Ph.Ds are in great demand in the various areas of Pharmaceutical Research & Development such as New Drug Discovery Research, Process Development, Formulation & Development, Clinical Trials, Bio equivalence studies and Toxicological Studies. Analysis & Testing
- Quality control (QC) and Quality Assurance (QA) are the most integral areas of the drug & pharmaceutical industry. Highly specialized and trained staff are required to handle sensitive analytical procedures & sophisticated equipment. M.Pharms & Ph.Ds in Pharm. Analysis /Q. A. are highly preferred for this job.
- **Marketing**
- The Pharma. Sales & Marketing is a highly technical field & offers excellent opportunities for the pharmacy graduates. An aspirant of a highly bright future can enter through various openings like starting his own retail or wholesale drug store or becoming a professional sales representative (known as medical Sales Representative or M. R.) to the levels of International Marketing & Exports. The monetary rewards and perks are the best.

- **Hospital Pharmacy**
- Like U.S.A. & Canada, this trend is already set in many hospitals in our country. The Pharmacist is the best-informed qualified drug expert whose advice is sought by everybody regarding the dosage, incompatibilities and side effects of drugs.
- **Community Pharmacy**
- This concept is rapidly catching up the Healthcare service in our country. A pharmacist becomes a vital link between the patients and the products i.e., drugs.
- **Opportunities**
- Golden opportunities galore for qualified Pharmacy professionals in various countries. There are plenty of higher education and research opportunities in the developed western countries along with excellent job openings. The monetary job benefits abroad are highly exciting.
- **Academics**
- This is a profession associated with job satisfaction and social status as teaching is considered to be noble profession. The posts in the hierarchy are Lecturer, Sr. Lecturer, Reader, Asst. Professor, Professor, Principal etc. The emoluments are satisfactory. Besides teaching Academic related opportunities involve positions on Research Posts and Training programs.
- **Regulatory Affairs**
- Locally the F. D.A. (Foods & Drugs Control Administration) is the main regulatory body governing and implementing the rules and regulations for the Drug & Pharma industry. The job opportunities range from the levels of a Drug Inspector (D. I.), Sr. D. I., Asst. Drug Controller, Deputy Drug Controller, Drug Controller of state and finally D.C. I. (Drug Controller of India). A graduate in Pharmacy is the minimum eligibility. Since, the business involved is worth multibillion dollars, this branch has assumed tremendous significance and is bound to grow enormously, in the Post-GATT era. Regulatory experts are thus in great demand. Similarly, Patents and Trademarks, I.P.R. Experts are also in high demand as far as the pharma. industry is concerned.
- **Pharmacovigilance**
- The Pharmacovigilance (PV) Officer is required to perform Individual Case Safety Report (ICSR) quality control (QC) and to report Suspected Unexpected Serious Adverse Reactions to Health Authorities.
- **Medical Coding**
- You will review patient medical records and assign codes to diagnoses and procedures performed so the facility can bill insurance and other third-party payers as well as the patient. Most of these professionals work on-site for

hospitals, clinics, physicians, and a variety of other healthcare facilities. Medical coding jobs may also offer opportunities to work from home.

- **Self employment**

- Self employment – can establish his own manufacturing facilities and register the same.

- **Consultancy**

- This is an ideal opportunity for highly technical and experienced pharmacy professionals to earn handsomely as self-employed entrepreneurs, even after the age of retirement.

#### **4. Course offered:**

- **B.Pharm, D.Pharm**

- The university is providing the 4 year **B.Pharm. and D.Pharm.** course approved by Pharmacy Council of India

#### **5. Minimum eligibility and Documents required:**

The minimum eligibility criteria for the admission in 1st year are purely on merit basis as per the rules prescribed by the State Govt. of Haryana. For admission to 1st year the candidate should have passed in 10+2 examination from recognized Board or any examination recognized as equivalent thereto by PK University, Shivpuri(Haryana) with at least 50% marks in Physics , Chemistry & Maths/Biology taken together and must have passed in the subjects of Physics, Chemistry, Biology/Math and English individually in qualifying examinations.

##### **Documents required:**

The documents required at the time of admission process are as:

- 8 photographs
- 10th Mark sheet & certificate
- 12th Mark sheet & certificate
- Domicile ( Residence proof)
- Medical Certificate by CMO
- Migration Certificate/Transfer certificate
- Character Certificate

## **6. Infrastructure:**

### **Ultra- modern Class Rooms:**

All the Lecture rooms are spaciouly designed and are well furnished with air conditioned facility and necessary technical teaching aids like Slide projectors, LCD Projector, PA systems and other online information systems.

### **Well Stocked Library:**

Library being the store house of knowledge is a very important source of learning and development of students. The library is well equipped with spacious reading room facility for the students along with the latest books which relate directly to the curriculum, reference books, which include all latest edition of pharmacopoeias, dictionaries, encyclopedia, selected books of general interest of curricular, extra-curricular or recreational reading, by National and International authors, together with many journals that include National and International.

The library has a collection of more than 2,000 books on different subjects of Pharmacy, medical science and Applied Sciences with book bank facility and 15 journals of national and international repute, periodicals, magazines and newspapers are subscribed in the library in the periodical section. The library is subscribed to DELNET and INDEST, which ensures that students have an access to a plethora of e-books, online journals through which it is connected to 743 Indian as well as foreign libraries. It is also equipped with reprographics facility.



### **Laboratories:**

PK University has state of the art laboratories to aid concept building and skill enhancement. Each department has dedicated labs that are equipped with the latest facilities. Coherent and detailed learning objectives as well as the guidance provided by the faculty and staff members enhance the practical exposures of students.

### **Pharmaceutics Lab:**

Pharmaceutical Laboratories help in training the students in the manufacturing and formulation of drugs. Students are well trained in the method of formulating drugs in different dosage forms like, Tablets, Capsules, Parenterals, Ointments creams, Eye drops, syrups, etc. Various practical aspects of Pharmaceutics like Physical

Pharmacy, Unit operation, Dispensing Pharmacy, Pharmaceutical Technology, Biopharmaceutics, Community Pharmacy, Pharmaceutical Biotechnology, etc are taught to the students. Drug interaction, stability, Shelf -life studies are carried out. Different aspects of filling, packing, selling, labeling are studied by the students. Cosmetology plays a major role in the present society. Our students are well trained in the manufacturing in cosmetics like Vanishing Creams, Cold Cream, Lotion, Liniment, Hair Dye, Lipstick, Perfume, Shampoo etc. Microbiological screening, testing and anti-microbial activity are carried out in the Pharmaceutical Biotechnology Laboratory.

The research interest of the Department is in carrying out Pharmacokinetics studies and studies on novel drug delivery system.



### **Machine Room:**

The machine room is well equipped with machines generally encountered in Pharmaceutical Industry:

- Hand Operated Single Punch Machine
- Hand Capsule Filling Machine
- Bottle Filling and Sealing Machine
- Coating Pan
- All Purpose Assembly
- Mechanical Sieve Shaker
- Ointment Filling and Sealing Machine
- Tincture Press
- Ampoule Filling and Sealing Machine
- Ampoule Clarity Test Apparatus
- Ball Mill
- Planetary Mixer
- Tray Dryer
- Tablet Counter

### **Pharmacology Lab:**

Pharmacology department trains the students in subject in Anatomy, Physiology & Pathophysiology, pharmacology & Toxicology. Students are given facilities to understand different system of Human Anatomy & their function & Pathology with tools like, Models, Charts, Permanent Slides, Bones, Skelton etc. After completely well versed with the subject Human Anatomy, physiology & Pathophysiology, students start to learn& make use of Pharmacological laboratories. Here students learn about the General pharmacology, drug dose, dry use, Mechanism of action of drugs, screening of drugs etc.

Software for the basic demonstration of Pharmacological experiments is provided. A major interest of research in this department is clinical research which is the well flourishing field of Pharmaceutical Research Programme. Well planned and spacious Central Animals House is provided to facilitate the students to learn about the Pharmacological screening methods.





### **Pharmaceutical Chemistry Lab:**

This Laboratory help in acclimatizing the student with the chemistry aspect of the Pharmacy profession which helps them in their carrier as an analytical chemist, Research and Development and in Post graduate studies.



### Pharmacognosy Labs :

Pharmacognosy labs are well positioned for the proper entry of light which is the essential requirement for the microscopical slides to be observed. The labs are well equipped and suitable for various Pharmacognostical studies which the students are undertaking. They provide facilities for the students to acquire skills in learning morphological and microscopical characters of natural drugs using, Compound Microscope, Dissection Microscope & Projection Microscope. Students are trained in the various stages of natural drug research like different types of extraction, separation of groups of compounds, purification and identification of individual compounds and the re-characterization. Sophisticated instrument are used for the Chromatographic and standard Spectroscopic techniques.

The major research interest of the department has been in the area of traditional Health care system, with a view of utilization of traditional and

folklore remedies into the provision of primary health care. Standardization of herbal drugs which is the major task in the present scenario is also carried out by the students in this department as their project work for the qualitative & quantitative evaluation of Phytomedicine. Further research interest is in the Biotechnological preparation of plant tissue culture of medicinal plants. Students are provided with various tools like ,crude drugs, charts, slides, Photographs etc. to assist them in their learning process.

### **Computer Lab**

The radical shift from conventional to contemporary methods of teaching makes computer and computerization an integral aspect of learning. Information search, analysis, testing and investigation are the essence of Pharmaceutical Education not to mention that they are all inter dependent. Computer center has about 60 computers fully equipped with Pentium-IV configuration and all modern software to keep the students abreast with the fast changing needs of the Pharmaceutical industries. 24 hours internet accessibility is provided to the students and laboratories remain open up to 10 P.M. so that the students can access all the information required to keep them fully abreast with the latest researches taking place anywhere and everywhere across the globe

### **Museum:**

University planning to develop the Museum which holds various Informative and Educative specimens & models related to Pharmacy such as:

- Herbarium Sheets
- Crude drug Samples used to cure various disease
- Charts of T.S of various part of plants
- Human organ models
- Samples of various Drugs and Cosmetics
- Botanical specimens
- Colored slides of medicinal plants
- Medicinal Garden

The institute has developed medicinal garden, which is ancillary to Pharmacognosy laboratory. Various medicinal plants namely, Vinca rosea, Ocimum spp., Cymbopogon spp. , Rouwolfia serpentina, Foeniculum vulgare, Coriandrum sativum, Saraca indica, Datura innoxia, Mentha spicata, Gossypium herbaceum, Olea europaea, Ricinus communis, Elettaria cardamomum, Curcuma longa, Azadirachta indica, Tribulus terrestris, Asparagus racemes us have been planted so that the students have access to the plants they study in text. This act increases their love for this subject of specialization. Especially in this era of Herbal formulation and therapy it has become a necessity to maintain proper Herbal Garden to enrich the knowledge in the subject.

## **6. MULTI-CUISINE CAFETERIAS & DIVERSE SPORTS FACILITIES:**

PK University is has an plan to develop an array of eating joints, satisfying every taste. All cafeterias will have menus will be designed by a team of professional dieticians to ensure a well balanced diet. Fresh fruit juices, milkshakes, ice creams and even midnight snacks will be available in these cafeterias to keep everyone fit and agile. The campus is preparing to develop an playground and an athletic track to encourage the students to take part in indoor and outdoor games such as Cricket, Hockey, Football, Basketball, Volleyball, Lawn Tennis, Kabaddi, Badminton, Carrom and Chess. The students can actively participate in the Annual Sports Meet and other Sports Tournaments. Expert coaching will be provided to help the beginners and to hone the sports skills of the students.

## **7. From the Desk of Head of the Department (Pharmacy):**

“With extreme pleasure, I on behalf of Institute of Pharmaceutical sciences, PK UNIVERSITY, Shivpuri welcome all the aspirants to our Institute. Pharmaceutical Science as a field is known to be highly competitive and demanding and is always on a lookout for professionals equipped with contemporary skills. In order to meet the new age demands, the institute is continuously upgrading the facilities and infrastructure so as to enable the faculty to tune the students to prepare themselves for the challenging opportunities available in pharmaceutical sector.

The faculty boasts of highly qualified and experienced teachers and the department has a very conducive academic environment Adequate emphasis is laid on the development of an overall personality of the students for which co-curricular and extra- curricular activities are held from time to time in the Institution. Our students are continuously gaining recognition in various facets of the profession and are making their family, institution and the society proud. I hope they continue to strive harder and perform better in the years to come to complete with the current needs in pharmaceutical industry.

I extend a warm invitation to all aspirants of pharmacy education to be a part of this endeavor.

HOD.

## **8. Faculty**

1. Name- **Prof.(Dr.) Rajendra Chauksey**

Designation- Director/Dean, Institute of Pharmacy

2. Name- **Rajkumar Mishra**

Designation- Asstt. Prof

3. Name: **Ms.Sonia Anand**

Designation: Asstt. Prof.

4. Name: **Uma Shnaker Mishra**

Designation: Asstt. Prof.

### **Syllabus:**

**For B.Pharm. and D.Phram.**

