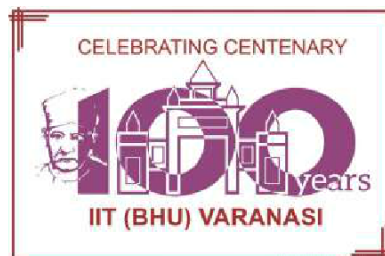
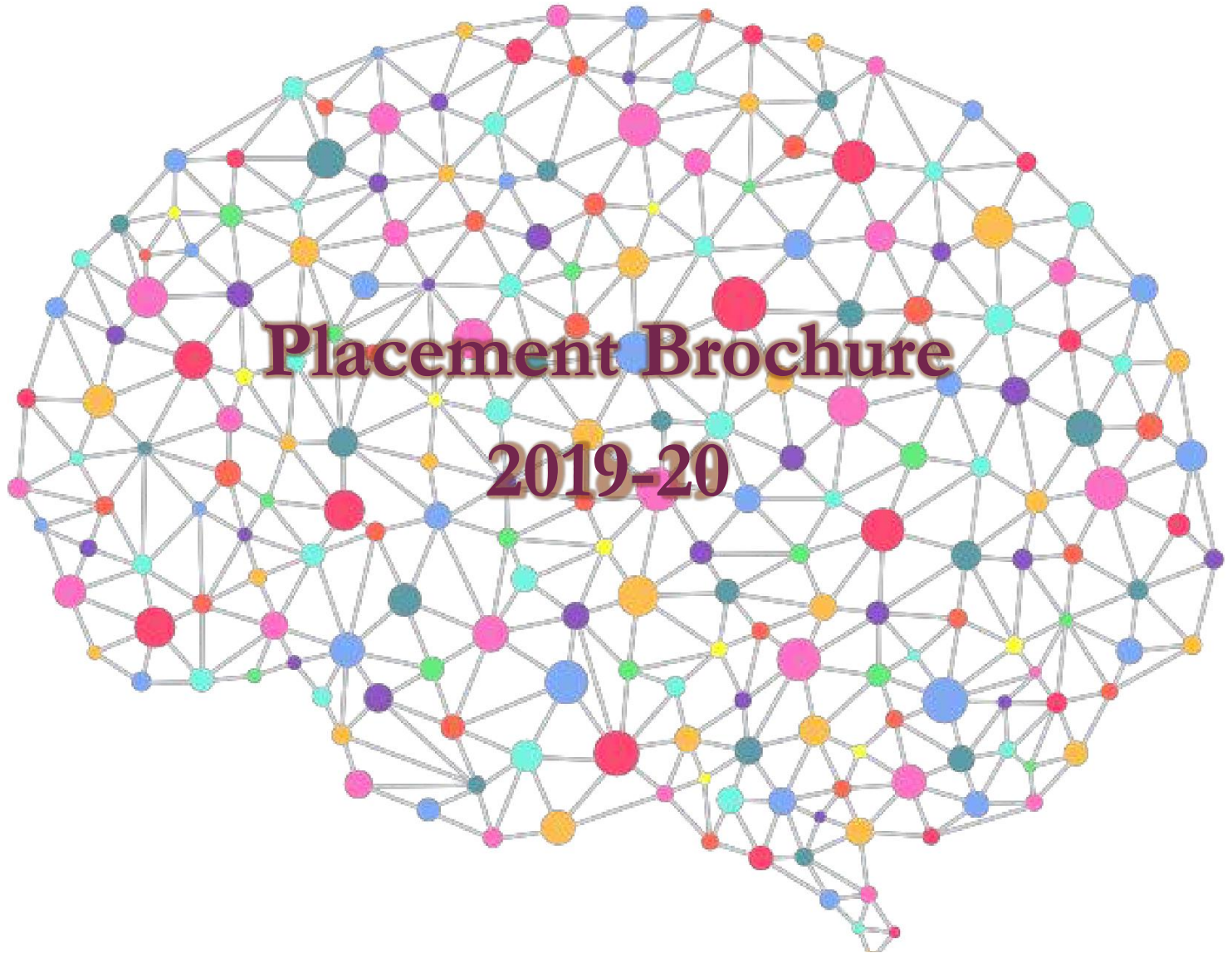


# Department of Pharmaceutical Engineering & Technology



**Indian Institute of  
Technology (B.H.U),  
Varanasi-221005, India**

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## The Inception

The Department of Pharmaceutical Engineering & Technology is now a part of IIT-BHU, Varanasi. This was previously a constituent of (IT-BHU). Professor M. L. Schroff (1902-1971), Father of Pharmacy Education in India, an eminent Pharmaceutical Scientist, Educationist, and freedom fighter played yeoman role in establish-ing the present status of Pharmaceutical industry, research & academics. Prof. M L Schroff, B.A. (Honors) from Cornell University and M.Sc. (Chemistry & Microbiology) from Massachusetts joined the Banaras Hindu University under the inspiring guidance of Mahamana Pandit Madan Mohan Malaviyaji. He established a section of Pharmaceutical Chemistry for the first time in 1932 in BHU which was later developed as a fully-fledged Department of Pharmaceutics in an Indian University.

The establishment of Banaras Hindu University in the year 1916 was a landmark in the history of education in India. The department has played a pivotal role in growth and development of the Pharmaceutical Industry which is globally recognized for their quality products at affordable cost.

The Department of Pharmaceutical Engineering and Technology (Formerly Department of Pharmaceutics) offers B. Tech(4 yrs.), Integrated Dual Degree M. Tech(5 yrs.), M. Pharm(2 yrs.), and Ph. D courses. Post-graduate and Ph. D course is offered in four specialization areas namely Pharmaceutics, Pharmaceutical Chemistry, Pharmacology and Pharmacognosy.

The courses are designed to impart knowledge on various aspects of drug design, development, testing, and safe and effective use of drugs/medicines including drug de-livery systems. The courses provide an unique fusion of biology with engineering and technological concepts to develop skilful process(es)/techniques for designing, pro-curing and evaluating various kinds of drugs and drug delivery systems.

The courses also provide a unique opportunity to pharmacy professionals to serve the humanity by alleviating the discomfort, pain and sufferings (caused

by various diseases) through discovery and development of safe and effective drugs/medicines.





## About us

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# **Admission**

**The admission to B. Tech and IDD MTech courses are made through Joint Entrance Examination (JEE) conducted by Indian Institute of Technology and to M. Pharm course through Graduate Pharmacy Aptitude Test (GPAT) conducted by AICTE, Delhi and NTA, Noida, UP.**

# Course curriculum

## Course Structure of 2-Year M.Pharm. Programme (2017 & onward)

Semester I				Semester II			
Cat.	Course	L-T-P	Cr.	Cat.	Course/Thesis	L-T-P	Cr.
DC1	PH501: Advanced Instrumental Analysis	3-0-3	12	DC3	PH502: Drug Regulatory Affairs	3-0-0	9
DC2	PH503: Spectroscopy	3-0-0	9	DC4	PH504: Applied Pharmacology	3-0-0	9
DE1	PH511/522/532/545	3-0-0	9	DE4	PH512/521/535/542	3-0-0	9
DE2	PH513/523/533/546	3-0-0	9	DE5	PH515/525/536/543	3-0-0	9
DE3	PH514/524/534/541	3-0-0	9	DE6	Any DE4/DE5 Course from other specializations	3-0-0	9
HU/LM	Humanities/ Language & Management	3-0-0/ 1-1-0	9/5	DC5	PH505: Spectroscopy lab	0-0-3	3
				DT	PH595: MPharm Thesis	0-0-11	11
	Total Credits in Semester I		53/57 (50-60)		Total Credits in Semester II		59 (50-60)
Semester III				Semester IV			
Cat.	Thesis	L-T-P	Cr.	Cat.	Thesis	L-T-P	Cr.
DT	Ph695 MPharm Thesis (Five units)	0-0-55	55	DT	PH696 MPharm Thesis (Five units)	0-0-55	55
	Total credits in Semester III		55 (50-60)		Total credits in Semester IV		55 (50-60)

### Course Categories

DC: Departmental/Programme Core (Compulsory for all students of the Dept)

DE: Departmental Elective (Can be selected from other Department/School)

HU/LM: Humanities/Language & Management Course

DT: Thesis

### Credit Breakup

Total Theory Credits (57+48): **105**

Total Thesis Credits (11+55+55): **121**

Total Programme Credits: **226**

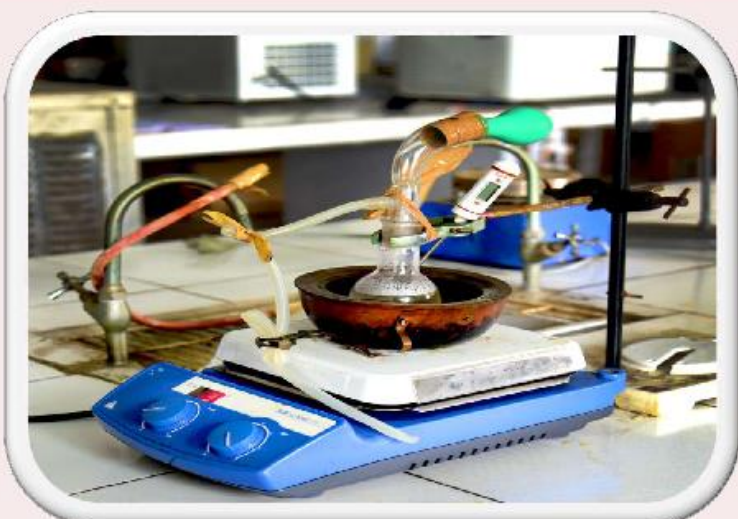
### Department Elective Courses of all Four Specializations

Pharmaceutics (01X)	Pharmaceutical Chemistry (02X)	Pharmacology (03X)	Pharmacognosy (04X)
PH511 Advanced Biopharmaceutics	PH521 Advanced Medicinal Chemistry	PH532 Advanced Pharmacology	PH541 Evaluation of Natural Drugs
PH512 Novel Drug Delivery Systems	PH522 Advances in Drug Synthesis	PH533 Molecular Pharmacology	PH542 Medicinal Plant Biotechnology
PH513 Pharmacokinetics	PH523 Chemistry of Natural Products	PH533 Clinical Pharmacology	PH 543 Herbal Drug Formulation & Standardization
PH514 Nanopharmaceutics	PH524 Medicinal Chemistry of Antiinfectives	PH535 Neuropharmacology	PH545 Separation techniques of Bioactives
PH515 Industrial Pharmacy	PH525 Computational Drug Design	PH536 Toxicology	PH546 Medicinal Natural Products



## Infrastructure and Research facilities

Research is conducted across the areas of drug discovery and formulation development from lead discovery from synthetic and natural sources, lead optimization through computational approaches, Biochemical and pharmacological evaluation in animal models, clinical evaluation of drug candidates and drug delivery.







## Alumni

The Department has produced till date numerous B. Pharm, M. Pharm and Ph. D candidates. The alumni of this Department are occupying highest position in both academic institutions and industries in India and abroad.

Some of the key alumni include;

- Dr. G.N.Singh, (Former Drug Controller General of India) Shri Ashwini Kumar (Former Drug Controller General, India), Dr. D.Gupta (Warner Hindustan, Hyderabad)
- Shri J.C.Saigal (Nicholas Piramal, Mumbai), Dr. P.M.Naik (Cadila, Ahmedabad)
- Dr. Himadri Sen (Ranbaxy, New Delhi),
- Mr. Abraham Patani (INGA, Mumbai),
- Dr. S.Kapoor (Shehnaz Herbals, New Delhi),
- Mr. Devendra Pal (Catalyst Pharma Consulting, Mumbai), Mr. Praful Naik (Bilcare Limited, Pune), Dr. V.K.Arora (Ranbaxy, New Delhi) and
- Dr. N.Udupa (Chairman, Deptt. of Pharmaceutical Sciences, Manipal)





## Sophisticated Analytical Instrument Facilities

- High Performance Liquid Chromatography
- Lyophilizer
- FTIR and ATR spectrophotometer
- Fluorescence Microscope
- Ultraviolet/Visible Spectro-photometer
- Spectrofluorimeter
- HPTLC
- OxyTherm
- Laser Doppler Flowmetry





## Laboratory Facilities

### Pharmaceutical Chemistry

#### Labs-

- ☐ Pharmaceutical chemistry UG/PG Lab
- ☐ Instrumental analysis Lab
- ☐ Pharmaceutical chemistry research Lab
- ☐ Computer Aided Drug De-sign Laboratory

### Pharmacognosy Labs

- ☐ Pharmacognosy UG/PG Laboratory
- ☐ Pharmacognosy Research Laboratory

### Pharmaceutics Labs-

- ☐ Pharmaceutical Research Laboratory
- ☐ Nanomedicine research Lab
- ☐ Advanced Drug Delivery Research Lab
- ☐ Pharmaceutics Research Lab 2
- ☐ Pharmaceutics UG and PG Labs

### Pharmacology Labs

- ☐ Pharmacology UG/PG Laboratory
- ☐ Pharmacology Research Laboratory
- ☐ Neuropharmacology Research Laboratory
- ☐ Pharmacology Behavioral Laboratory
- ☐ Neurotrauma / Gastric Research Laboratory







## Internship and Past Recruiters

Over the summers, B.Tech students undertake internships, either in the industry or in leading academic institutions. This takes education outside the classroom into the offices of corporate or the rooms of the research labs. The previously and to be graduating batch has done internships in a lot of diverse organizations and fields which has helped them gain a lot of academic as well as corporate experience.

## Companies



# Contact us-

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**For any queries, please contact the Departmental Placement Coordinators or TPC during office hours.**

**For additional info on Department of Pharmaceutical  
Engineering and Technology Visit—  
<https://www.iitbhu.ac.in/dept/phe>**