



# GAUTAM COLLEGE OF PHARMACY HAMIRPUR (H.P)

(Approved by PCI - New Delhi & Himachal Government)

Affiliated to Himachal Pradesh Technical University, Hamirpur & Himachal Pradesh Technical Shiksha Board, Dharamshala

## M. Pharm (Pharmaceutics)

**PO-1 Pharmacy Knowledge:** Apply comprehensive knowledge and skills associated with pharmaceutics in design and development of new drug like molecules for biological targets.

**PO-2 Planning abilities:** Identify, formulate and test research problems, analyse, interpret and draw conclusions from data; plan, execute and report the results of an experiment or investigation effectively within time frame.

**PO-3 Problem analysis:** Demonstrate efficiency in problem solving skills, based on scientific and analytical approach. Analysis and solving problem related to synthesis, purification, physicochemical properties and toxicity of designed compounds.

**PO-4 Modern tool usage:** Acquire and apply latest scientific methods and computing tools related to synthesis, analysis and characterization of compounds with thorough understanding of limitations.

**PO-5 Leadership skills:** Demonstrate capability to build and lead team that can help to achieve the vision, inspire and motivate team members to engage with that vision and use leadership skills to guide the team for fulfilment of professional and societal responsibilities.

**PO-6 Professional identity:** Demonstrate attitude, values, knowledge and skills that are keys to fulfil professional competence. Understand analyse and communicate the value of their professional role in society as health care professionals.

**PO-7 Pharmaceutical ethics:** Apply ethical principals while making decisions and take responsibility for outcome associated with the decisions. Demonstrate behaviour that respects cultural and personal variability in values, communication and lifestyles.

**PO-8 Communication:** Communicate effectively with scientific community and with society at large, in writing and orally; express views, thoughts and ideas in a clear and concise manner. Write scientific reports, create effectual presentations and documentation and provide and obtain clear instructions.

**PO-9 The Pharmacist and society:** Demonstrate responsible behaviour and ability to assess community, health, safety and legal issues and consequent responsibilities relevant to professional practice.

**PO-10 Environment and sustainability:** Understand the effect of chemicals and materials used in pharmaceutics on environment, apply contextual knowledge to minimise negative impact on environment and provide sustainable solutions.

**PO-11 Life-long learning:** Promote lifelong learning activities through self motivation focussed at personal and professional development; to fulfil these needs attend and participate in scientific seminars / conferences / workshop on an ongoing basis.



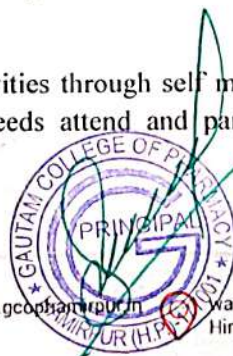
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<b>M.PHARMACY (PHARMACEUTICS)</b> <b>1<sup>st</sup> SEMESTER COURSE OUTCOMES</b>	
<b>Course Code: MPH101T</b>	<b>Course Name: Modern Pharmaceutical Analytical Techniques</b>
CO1	To know about chemicals and excipients.
CO2	To know the analysis of various drugs in single and combination dosage forms.
CO3	To learn theoretical and practical skills of the instruments..
<b>Course Code: MPH102T</b>	<b>Course Name: Drug Delivery Systems</b>
CO1	To learn the the various approaches for development of novel drug delivery systems.
CO2	To understand the criteria for selection of drugs and polymers for the development of delivering system.
CO3	To understand the formulation and evaluation of Novel drug delivery systems.
<b>Course Code: MPH103T</b>	<b>Course Name: Modern Pharmaceutics</b>
CO1	To understand the elements of pre-formulation studies.
CO2	To know the active pharmaceutical ingredients and generic drug product development.
CO3	To gain knowledge of industrial management and GMP considerations.
CO4	To use optimization techniques and pilot plant scale up techniques.
CO5	To understanding stability testing, sterilization process and packaging of dosage forms.
<b>Course Code: MPH104T</b>	<b>Course Name: Regulatory Affairs</b>
CO1	The understand the concepts of innovator and generic drugs, drug development process.
CO2	To learn regulatory guidance's and guidelines for filing and approval process.
CO3	To understand the preparation of Dossiers and their submission to regulatory agencies in different countries.
CO4	To gain knowledge about post approval regulatory requirements for actives and drug products.
CO5	To understand the submission of global documents in CTD/ eCTD formats.
CO6	To learn various clinical trials requirements for approvals for conducting clinical trials.
CO7	To understand pharmacovigilance and process of monitoring in clinical trials.
<b>Course Code: MPH105P</b>	<b>Course Name: Pharmaceutics Practical - I</b>
CO1	To learn analysis of Pharmacopoeial compounds and their formulations.
CO2	To perform the dissolution of SR/CR dosage form.
CO3	To learn the formulation of matrix tablet, osmotic pump and transdermal patch
CO4	To learn and understand the effect of ingredients on tablet.
CO5	To apply the various plots on given dissolution data.



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<b>M.PHARMACY (PHARMACEUTICS) 2nd SEMESTER COURSE OUTCOMES</b>	
<b>Course Code: MPH201T</b>	<b>Course Name: Molecular Pharmaceutics (NanoTech &amp; Targeted DDS)</b>
CO1	To know the various approaches for development of novel drug delivery systems.
CO2	To learn The criteria for selection of drugs and polymers for the development of NDDS.
CO3	To understand The formulation and evaluation of novel drug delivery systems.
<b>Course Code: MPH202T</b>	<b>Course Name: Advanced Biopharmaceutics &amp; Pharmacokinetics</b>
CO1	To learn the basic concepts in biopharmaceutics and pharmacokinetics.
CO2	To understand the use raw data and derive the pharmacokinetic models and parameters the best describe the process of drug absorption, distribution, metabolism and elimination.
CO3	To learn the critical evaluation of biopharmaceutic studies involving drug product equivalency.
CO4	To understand design and evaluation of dosage regimens of the drugs using pharmacokinetic and biopharmaceutic parameters.
CO5	To apply the potential clinical pharmacokinetic problems and application of basics of pharmacokinetic.
<b>Course Code: MPH203T</b>	<b>Course Name: Computer Aided Drug Delivery System</b>
CO1	To understand the history of Computers in Pharmaceutical Research and Development
CO2	To learn computational Modeling of Drug Disposition
CO3	To apply computers in Preclinical Development
CO4	To use optimization Techniques in Pharmaceutical Formulation
CO5	To use computers in Market Analysis and Clinical Development
CO6	To learn about artificial Intelligence (AI), robotics and Computational fluid dynamics (CFD)
<b>Course Code: MPH204T</b>	<b>Course Name: Cosmetics &amp; Cosmeceuticals</b>
CO1	To learn about key ingredients used in cosmetics and cosmeceuticals.
CO2	To understand various key ingredients and basic science to develop cosmetics and cosmeceuticals.
CO3	To apply scientific knowledge to develop cosmetics and cosmeceuticals with desired Safety, stability, and efficacy.
<b>Course Code: MPC205P</b>	<b>Course Name: Pharmaceutics Practical - II</b>
CO1	To learn the design and evaluations of Nano formulations.
CO2	To use various software's for bioavailability and pharmacokinetic studies.
CO3	To understand the working to DoE software's.
CO4	To learn the design and evaluation of various cosmetic preparations.

<b>M.PHARMACY (PHARMACEUTICS) 3rd SEMESTER COURSE OUTCOMES</b>	
<b>Course Code: MPH301T</b>	<b>Course Name: Research Methodology &amp; Biostatistics</b>
CO1	To learn about various aspects of research.
CO2	To apply the biostatistics in research.
CO3	To understand the CPCSEA guidelines to use animals.
CO4	To understand and apply the Declaration of Helsinki



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