



Gurunanak College of Pharmacy, Nari, Nagpur - 440026

Pharmaceutics [2020-21]

Subjectwise Course Outcome - [FY-FIRST SEMESTER]

MPH 101T Modern Pharmaceutical Analytical Techniques [Theory]

CO No.	Course Outcome
CO1	To understand Analytical techniques for identification, characterization and quantification of drugs
CO2	To learn theoretical and practical skills of instrument handling and use.
CO3	To perform structural Elucidation of organic compounds using spectroscopic tools

MPH102T Drug Delivery Systems [Theory]

CO No.	Course Outcome
CO1	Define and distinguish between conventional and SR/CR formulations
CO2	Demonstrate the mechanism of drug delivery from SR/CR formulation and use of polymers in designing of drug delivery system
CO3	Select suitable drug candidates for designing Gastro-retentive, buccal, transdermal drug delivery systems
CO4	Identify barriers for drug delivery through Ocular, transdermal and buccal route
CO5	Choose suitable formulation approach for overcoming barriers of various routes of drug administration.
CO6	Demonstrate the importance of proteins and peptide therapeutics and to summarize the mechanism of uptake of antigens by Mucosa Associated Lymphoid Tissues (MALT).

Modern Pharmaceutics [Theory]

CO No.	Course Outcome
	Course outcome not yet added by the respective faculty.

MPH104T Regulatory Affair [Theory]

CO No.	Course Outcome
CO1	Understand the approval process and regulatory requirements for drugs & cosmetics, medical devices, biological & herbals, and nutraceuticals
CO2	Summarize the Concepts of innovator and generic drugs, drug development process
CO3	Explain The Regulatory guidance's and guidelines for filing and approval process.
CO4	Preparation of Dossiers and their submission to regulatory agencies in different countries
CO5	Categorize the guidelines for drug testing in animals

Seminar/ Assignment [Theory]

CO No.	Course Outcome
CO1	Creat presentation using proper format.
CO2	Prepare presentation on the given topic and deliver the contents effectively
CO3	Use effectively audio-visual aids.
CO4	Choose proper format of presentation.
CO5	Use relevant references and apply proper referencing style.
CO6	Defend and answer questions asked during seminar.
CO7	Deliver relevant and useful matter to complete presentation in a stipulated time period.

Pharmaceutics Practical -I [Practical]

CO No.	Course Outcome
CO-1	Perform in-process and finished product quality control tests for tablets, capsules, parenteral and semisolid dosage forms
CO-2	Estimation of drug in pharmaceutical by using modern analytical techniques
CO-4	Perform pre formulation study for successful formulation of pharmaceuticals
CO3	Formulate and evaluate various sustained release dosage forms.
CO5	Know the effect of micromeritic properties, compressional force, particle size on tablet dissolution as well as disintegration.



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Pharmaceutics [2020-21]

Subjectwise Course Outcome - [FY-SECOND SEMESTER]

MPH 201T Molecular Pharmaceutics (Nano Tech and Targeted DDS) [Theory]

CO No.	Course Outcome
CO1	Recall importance of various drug delivery systems.
CO2	Distinguish between conventional and targeted drug delivery systems.
CO3	Demonstrate the role of biological process involved in drug targeting.
CO4	Outline and select the appropriate drug targeting strategy.
CO5	Design and evaluate various targeted drug delivery systems.
CO6	Summarize the importance of gene therapy.

MPH202T Advanced Biopharmaceutics and Pharmacokinetics [Theory]

CO No.	Course Outcome
CO1	understand the basic concepts in biopharmaceutics and pharmacokinetics
CO2	Understand the processes and terms related to the fate of drug in human body.
CO3	Explain and describe the physicochemical, dosage form and patient related factors affecting absorption, distribution, metabolism and excretion of drugs.
CO4	Justify the significance of the rate of movement of drug in the body administered by various routes of administration.
CO5	Understand the concept of compartment modelling and evaluate the quantity/concentration of drug in body at any point of time
CO6	Compare and analyze the in vitro drug release profiles for different marketed products

Computer Aided Drug Delivery System [Theory]

CO No.	Course Outcome
CO1	Describe the history of computers in pharmaceutical research and development
CO2	Explain the key principles of QbD, QBD development process and risk-based regulatory framework
CO3	Describe the basic screening designs and expanded designs
CO4	Describe the optimization techniques in pharmaceutical formulation
CO5	Describe the QbD guidance review (ICH Q8/Q9/Q10/Q11)
CO6	Interpret and practice the fundamental concepts of computational modeling of drug disposition
CO7	Implement a basic design of experiments (DoE) approach

Cosmetics and Cosmeceuticals [Theory]

CO No.	Course Outcome
CO1	Know the key ingredients and building blocks and their importance for the preparation of cosmetic and cosmeceutical products
CO2	Know the Indian regulatory requirements for labelling, import and manufacture of cosmetics and cosmeceuticals.
CO3	Gain scientific knowledge to develop cosmetics and cosmeceuticals with desired safety, efficacy and stability.
CO4	Know the herbal ingredients used in the formulation of Hair care, skin care and oral care and understand challenges in formulating herbal cosm

Seminar/ Assignment [Theory]

CO No.	Course Outcome
CO1	Creat presentation using proper format.
CO2	Prepare presentation on the given topic and deliver the contents effectively
CO3	Use effectively audio-visual aids.
CO4	Choose proper format of presentation.
CO5	Use relevant references and apply proper referencing style.
CO6	Defend and answer questions asked during seminar.
CO7	Deliver relevant and useful matter to complete presentation in a stipulated time period.

Pharmaceutics Practical-II [Practical]

CO No.	Course Outcome
CO1	To study various factors affecting microspheres preparation to formulate as well as to formulate and evaluate various drug delivery systems like alginate beads, liposomes, niosomes etc.
CO2	To use techniques for the improvement of dissolution characteristics of slightly soluble drugs and compare dissolution profiles with marketed products
CO3	To perform pharmacokinetic studies and analyse data by using software
CO4	To understand computer simulations in pharmacokinetics and pharmacodynamics
CO5	To develop and analyse various cosmetic and cosmeceutical herbal preparations



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Pharmaceutics [2020-21]

Subjectwise Course Outcome - [FINAL YEAR-III SEMESTER]

Research Methodology and Biostatistics [Theory]

CO No.	Course Outcome
CO1	Discuss different methodologies and techniques used in research work.
CO3	Describe the appropriate statistical methods required for a particular research design
CO2	Explain basic computer skills necessary for the conduct of research.
CO4	Develop a appropriate framework for research studies

Journal Club [Theory]

CO No.	Course Outcome
CO1	Prioritize useful resources among a multitude of publications.
CO2	Find and use the recently published literature for carrying out research on the selected topic.
CO3	Able to improve presentation and communication skills.
CO4	Improve critique skills, as well as keep up-to-date with the current knowledge in the respective research area.
CO5	Able to interpret and discuss the results.
CO6	To provide a background for the research, explain the different techniques, processes and present important findings
CO7	To improve reading habits, promotion of critical thinking and acquisition of critical appraisal skills.
CO8	To strengthening of collegial relationships and team work.

Dissertation/Presentation (Proposal Presentation) [Theory]

CO No.	Course Outcome
CO1	Understand the research topic .
CO2	State the importance of the problem.
CO3	Derive planned methods for data collection and analysis.
CO4	Justify that the Aim and Objectives of the topic meet the title of the project.

Research work [Theory]

CO No.	Course Outcome
CO	To design the meaningful research problems

CO2	To be able to review and analyse relevant literature
CO3	To plan and execute research methodologies based upon advancements in science and technology
CO4	To be able to prepare and present an effective report/presentation