



Gurunanak College of Pharmacy, Nari, Nagpur - 440026

Pharmaceutical Chemistry [2020-21]

Subjectwise Course Outcome - [FY-FIRST SEMESTER]

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

MPC 102T Advanced Organic Chemistry -I [Theory]

CO No.	Course Outcome
CO1	Explain the different organic intermediates involved in determining the reaction mechanism such as SN1, SN2 and E1, E2 mechanism.
CO2	Discuss the mechanism and applications of various named reactions
CO3	Explain the applications of various synthetic reagents
CO4	Explain the various protecting and de-protecting groups
CO5	Explain the chemistry, synthesis and mechanism of reactions in heterocyclic compounds
CO6	Explain the principle, applications of retrosynthesis and disconnection approach to develop synthetic routes for small target molecule

Advanced Medicinal chemistry [Theory]

CO No.	Course Outcome
CO1	To understand different stages of drug discovery
CO2	To understand the role of medicinal chemistry in drug research
CO3	To understand different techniques of drug discovery
CO4	To understand the various strategies to design and develop new drug like molecules for biological targets
CO5	To understand the peptidomimetics and its role in drug discovery
CO6	To understand the impact of the professional pharmacy solutions in societal and environmental contexts, and need for sustainable development

MPC 104T Chemistry of Natural Products [Theory]

CO No.	Course Outcome
CO 1	To know different types of natural compounds and their chemistry and medicinal importance
CO 2	To understand the importance of natural compounds as lead molecules for new drug discovery

CO 3	To know the concept of rDNA technology tool for new drug discovery
CO 4	To learn the general methods of structural elucidation of compounds of natural origin
CO 5	To learn Isolation, purification and characterization of simple chemical constituents from natural source

Pharmaceutical Chemistry Practical II [Practical]

CO No.	Course Outcome
CO1	Estimation and isolation of chemical constituents, drug molecules using modern analytical techniques
CO2	Estimation and isolation of plant based products

Seminar/Assignment [Practical]

CO No.	Course Outcome
CO1	To be able to understand and interpret published literature
CO2	To be able to prepare and deliver effective powerpoint presentations.



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Pharmaceutical Chemistry [2020-21]

Subjectwise Course Outcome - [FY-SECOND SEMESTER]

MPC 201T Advanced Spectral Analysis [Theory]

CO No.	Course Outcome
CO 1	To learn different analytical instrumental techniques for identification, characterization and quantification of drugs.
CO 2	To understand Interpretation of the NMR, Mass and IR spectra of various organic compounds
CO 3	To know the theoretical and practical skills of the hyphenated instruments
CO 4	To develop and implement the analytical knowledge in identification of organic compounds

MPC 202T Advanced Organic Chemistry-II [Theory]

CO No.	Course Outcome
CO1	Discuss the principles and applications of green chemistry
CO2	Explain the chemistry, synthesis and side reactions of peptides
CO3	Explain the principles of different types of photochemical and pericyclic reactions.
CO4	Explain the applications of homogeneous and heterogeneous catalysis in the synthesis of drugs
CO5	Discuss the applications of biocatalysis and phase transfer catalysis in organic reaction
CO6	Explain the basic concept of stereochemistry and principle of asymmetric synthesis.

MPC203T Computer Aided Drug Design [Theory]

CO No.	Course Outcome
CO1	To possess the knowledge of various computational techniques that are useful in new drug discovery
CO2	To understand the role of computational techniques in the designing of new drug molecules.
CO3	To learn various strategies to design and develop new drug like molecules.

MPC-204T Pharmaceutical Process Chemistry [Theory]

CO No.	Course Outcome
CO1	To understand the strategies for scaling up the manufacturing processes for APIs and intermediates.
CO2	To be able to design various unit processes involved in the synthesis of APIs and intermediates.

MPC 205P Pharmaceutical Chemistry Practical II [Practical]

CO No.	Course Outcome
CO1	To learn the use of computational software in drug design
CO2	To understand the regulatory requirements related to APIs
CO3	To outline the techniques involved in synthesis of organic compounds or drugs.
CO5	To experiment with the synthesis and analysis of organic compounds

Seminar/Assignment [Practical]

CO No.	Course Outcome
CO1	To be able to understand and interpret published literature
CO2	To be able to prepare and deliver effective powerpoint presentations.



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Pharmaceutical Chemistry [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	To understand the structure of research and review articles
CO2	To be able to interpret the results and discussion of a research problem
CO3	To be able to form meaningful research problems
CO4	To learn the communication skills required for delivering effective seminars

Proposal Presentations [Theory]

CO No.	Course Outcome
CO2	To be able to plan and execute the work based on the scientific knowledge
CO	To design the meaningful research problems
CO4	To be able to prepare and present an effective report/presentation

Research Work [Theory]

CO No.	Course Outcome
CO	To design the meaningful research problems
CO2	To be able to review and analyse relevent 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



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Subjectwise Course Outcome - [FINAL YEAR IV SEMESTER]

JOURNAL CLUB [Practical]

CO No.	Course Outcome
CO1	To understand the structure of research and review articles
CO2	To be able to interpret the results and discussion of a research problem
CO3	To be able to form meaningful research problems
CO4	To learn the communication skills required for delivering effective seminars

Research Work [Practical]

CO No.	Course Outcome
CO2	To be able to plan and execute the work based on the scientific knowledge
CO	To design the meaningful research problems
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