



Gurunanak College of Pharmacy, Nari, Nagpur - 440026

Pharmaceutical Quality Assurance [2020-21]

Subjectwise Course Outcome - [FY-SEM I]

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

Quality Control and Quality Assurance [Theory]

CO No.	Course Outcome
CO1	Explain the cGMP aspects in a pharmaceutical industry
CO2	Describe the importance of documentation
CO3	Understand the scope of quality certifications applicable to Pharmaceutical industries
CO4	Understand the responsibilities of QA & QC departments

Product Development and Technical Transfer [Theory]

CO No.	Course Outcome
CO1	Understand the principals of drug discovery and development as well as to know the requirements of filing IND, NDA and ANDA.
CO2	Understand the concept of pre-formulation of drug products and know the techniques for the study of various characteristics of drug and excip
CO3	Know the concept of Pilot Plant Scale-up and design layout for various dosage form manufacturing.
CO4	Understand the responsibilities of Quality Assurance and Quality Control department

MQA102T Quality Management System [Theory]

CO No.	Course Outcome
CO1	Understand and define quality and its concept
CO2	learn strategic planning and implementation of quality systems
CO3	Understand keys to know customer need and satisfaction
CO4	Describe various tools and systems for quality management
CO5	Understand importance of ICH guidelines and concept of statistical process control
CO6	Learn the concept of benchmarking in quality management

MQA105P Pharmaceutical Quality Assurance 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-3	Development of Stability study protocol for pharmaceuticals
CO-4	Perform pre formulation study for successful formulation of pharmaceuticals

Seminar [Practical]

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.



Gurunanak College of Pharmacy, Nari, Nagpur - 440026

Pharmaceutical Quality Assurance [2020-21]

Subjectwise Course Outcome - [FY-SEM II]

MQA201T Hazard and Safety Management [Theory]

CO No.	Course Outcome
CO-1	Understand the nature of environment, natural resources and importance of ecosystem
CO-2	Recognize the sources of hazards and the level of the risks associated with them
CO-3	Learn the method of Hazard assessment, procedure, methodology to provide safety standards in Pharmaceutical industries.

MQA 202T Pharmaceutical Validation [Theory]

CO No.	Course Outcome
CO1	To understand the concepts of calibration, qualification and validation.
CO2	To learn the qualification of various equipments and instruments.
CO3	To learn and analyse process validation of different dosage forms.
CO4	To understand the validation of analytical method for estimation of drugs.
CO5	To learn cleaning validation of equipments employed in the manufacture of pharmaceuticals.

MQA203T Audit and Regulatory Compliance [Theory]

CO No.	Course Outcome
CO1	Know briefly about audit objectives and its management
CO2	Understand the role of audits in pharmaceutical manufacturing
CO3	Learn the requirements for auditing vendors supplying various raw materials and equipments
CO4	Understand the audit of microbiological laboratory and engineering systems

MQA204T Pharmaceutical Manufacturing Technology [Theory]

CO No.	Course Outcome
CO1	Understand the basic requirements in pharmaceutical industry development
CO2	Understand the practices of aseptic process technology
CO3	Learn Non-sterile manufacturing technology
CO4	Know Quality by Design and Process analytical technology

MQA205P Pharmaceutical Quality Assurance I [Practical]

CO No.	Course Outcome
CO-1	Perform the Qualification and validation of an equipment's, instruments and analytical method for pharmaceuticals
CO-2	Identification & estimation of drug in pharmaceuticals & assess the impurities
CO-3	Application of Case study on QbD

Seminar [Practical]

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.



Gurunanak College of Pharmacy, Nari, Nagpur - 440026

Pharmaceutical Quality Assurance [2020-21]

Subjectwise Course Outcome - [FINAL YEAR-III SEMESTER]

Research Methodology [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
CO-1	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.
CO1	Select the useful resources from the multitude literature available.
CO4	Able to interpret and discuss research methodologies and results.
CO5	To apply research techniques, process and findings.
CO6	Strengthening of Collegial relationships and team work.

Seminar [Theory]

CO No.	Course Outcome
CO1	Improve oral and written communication & presentation skills
CO2	Explore an avenue for the knowledge in relation to the pharmacy profession with respect to social and academic context
CO3	Understand and discuss current and real issues related to research, academics & society as a whole