



MPharm Pharmaceutical Analysis

SEMESTER I - COURSE OUTCOMES (COs)

PCH-MPA 101T: MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

After completion of the course, a student will be able to understand:

1. The theory and working of sophisticated analytical instruments for quality control of drugs and pharmaceuticals.
2. The analysis of various drugs in single and combination dosage forms.
3. Applications of various analytical techniques for drug analysis.

PCH-MPA102T: ADVANCED PHARMACEUTICAL ANALYSIS

Upon completion of this course the student should be able to:

1. Appropriate analytical skills required for the analytical method development.
2. Principles of various reagents used in functional group analysis that renders necessary support in research methodology and demonstrates its application in the practical related problems.
3. Analysis of impurities in drugs, residual solvents and stability studies of drugs and biological products

PCH-MPA103T: PHARMACEUTICAL VALIDATION

Upon completion of the course, the student shall be able to know the

1. Explain the aspect of Validation
2. Carryout validation of manufacturing process
3. Apply knowledge of validation to instruments and equipment
4. Validation of manufacturing facilities

PCH-MPA104T: FOOD ANALYSIS

Upon completion of this course the student should be able to understand various analytical techniques in the determination of:

1. Food Constituents
2. Food Additives
3. Finished Food Products
4. Pesticides in Food
5. Also student shall have the knowledge on food regulations and legislations

PCH-MPA105P: PHARMACEUTICAL ANALYSIS PRACTICAL I

Upon completion of this course the student should be able to:

1. Perform calibration of volumetric apparatus and analytical instruments.
2. Perform qualitative and quantitative analysis of Pharmacopoeia compounds, natural and food products using instrumental techniques.

PCH-MPA106S: SEMINAR IN PHARMACEUTICAL ANALYSIS

Upon completion of the course the student shall be able to:

1. Develop skills to gather, organize, deliver information, and defend a given topic in Pharmaceutical Analysis
2. Learn to organize analytical concepts using audio-visual aids.
3. Acquire communication and presentation skills.
4. Effectively respond to the questions raised by peers and stand scientific scrutiny.
5. Develop scientific writing skill.
6. Cultivate a sense of upgradation of knowledge through self and continuous learning



MPharm Pharmaceutical Analysis

SEMESTER II - COURSE OUTCOMES (COs)

PCH-MPA201T: ADVANCED INSTRUMENTAL ANALYSIS

Upon completion of the course, the student shall be able to

1. Interpret NMR, Mass and IR spectra of various organic compounds
2. Understand the theoretical and practical skills of the hyphenated instruments
3. Identification of organic compounds

PCH-MPA202T: MODERN BIOANALYTICAL TECHNIQUES

Upon completion of this course the student shall be able to

1. Extraction of drugs and metabolites from biological samples and parameters for bioanalytical method validation.
2. Biopharmaceutical considerations including pharmacokinetics and toxicokinetic in drug product development.
3. Cell culture techniques, invitro assay of drug metabolites and its identification, in vivo drug product performance.

PCH-MPA203T: QUALITY CONTROL AND QUALITY ASSURANCE

Upon completion of the course the students will be able to understand the

1. The cGMP aspects in pharmaceutical industry
2. The importance of documentation
3. The scope of quality certifications applicable to pharmaceutical industries
4. To understand the responsibilities of QA and QC departments

PCH-MPA204T: HERBAL AND COSMETIC ANALYSIS

After completion of the course the students will be able to understand the

1. Regulatory aspects of herbal remedies
2. Analysis of natural products and monographs
3. Herbal drug-drug interaction
4. Manufacturing and evaluation of cosmetic products as per regulatory guidelines

PCH-MPA205P: PHARMACEUTICAL ANALYSIS PRACTICAL II

Upon completion of this course the student should be able to:

1. Decoding the spectral data
2. Separate analyte from biological samples by various techniques.
3. Do the Qualitative and quantitative analysis of Pharmacopoeial compounds and their formulations in biological samples
4. Do Quality control tests

PCH-MPA206S: SEMINAR IN PHARMACEUTICAL ANALYSIS

Upon completion of the course the student shall be able to:

1. Develop skills to gather, organize, deliver information, and defend a given topic in Pharmaceutical Analysis
2. Learn to organize analytical concepts using audio-visual aids.
3. Acquire communication & presentation skills.
4. Effectively respond to the questions raised by peers and stand scientific scrutiny.
5. Develop scientific writing skill.
6. Cultivate a sense of upgradation of knowledge through self and continuous learning



PHA-MRM301T: RESEARCH METHODOLOGY AND BIostatISTICS

Upon completion of the course the student shall be able to

1. Know the various components of research design and methodology.
2. Appreciate advanced statistical techniques in solving the research problems.

MJC302P: JOURNAL CLUB IN PHARMACEUTICAL ANALYSIS

Upon completion of the course the student shall be able to:

1. Learn to organize scientific research concepts using audio-visual aids.
2. Acquire communication and presentation skills.
3. Effectively respond to the questions raised by peers and stand scientific scrutiny.
4. Cultivate a sense of up-gradation of knowledge through self and continuous learning

MPHARM – CHOICE BASED INTERDISCIPLINARY COURSES

The following electives are offered by the department to provide pharmaceutical research and development oriented knowledge in various topics such as

1. PCH-001E: PREPARATIVE SEPARATION TECHNIQUES
2. PCH-002E: MOLECULAR MODELLING AND DRUG DESIGN
3. PCH-003E: HYPHENATED TECHNIQUES