CHEBROLU HANUMAIAH INSTITUTE OF PHARMACEUTICAL SCIENCES
Chandramoulipuram, Chowdavaram, Guntur – 522019, Andhra Pradesh.
(Sponsored by Nagarjuna Education Society)
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COURSE OUTCOMES

MASTER OF PHARMACY

PHARMACEUTICAL ANALYSIS BRANCH

SEMESTER – I

MPA 101T: MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES (Theory)

CO 1: To get knowledge on UV-Visible, IR, flame emission and spectroflourimetry.

CO 2: To understand the concepts of NMR spectroscopy.

CO 3: To gain knowledge on mass spectroscopy.

CO 4: To attain information on various chromatographic techniques.

CO 5: To get knowledge on types of electrophoresis techniques and X-ray crystallography.

CO 6: To obtain knowledge on Potentiometry and various thermal techniques.

MPA 102T: ADVANCED PHARMACEUTICAL ANALYSIS (Theory)

CO 1: To get knowledge on basics of impurities and stability studies of drugs.

CO 2: To understand the principles of elemental impurities and stability testing protocols.

CO 3: To gain knowledge on impurity profiling and characterization of degradents.

CO 4: To attain information on regulatory requirements related to stability testing of phytopharmaceuticals.

CO 5: To obtain knowledge on biological tests and assays of biotechnologically derived products.

CO 6: To know about various types of immunoassays.

MPA 103T: PHARMACEUTICAL VALIDATION (Theory)

CO 1: To understand the basic elements of qualification and validation.

CO 2: To attain information on qualification of various analytical instruments and glassware.

CO 3: To get knowledge on validation procedures of cleaning and utility systems.

CO 4: To understand analytical method validation and computerized system validation.

CO 5: To gain information on general principles and concepts of intellectual property.

MPA 104T: FOOD ANALYSIS (Theory)

CO 1: To get knowledge on classification, properties and analysis of carbohydrates, proteins and aminoacids.

CO 2: To attain information on classification, properties and analysis of lipids and vitamins.

CO 3: To understand the concept of various food additives, pigments and synthetic dyes.

CO 4: To get knowledge on general analytical procedures for fermentation products and milk and milk derived products

CO 5: To know about analysis of pesticides and their determination in foods along with various legislatory requirements of food products.

SEMESTER – II

MPA 201T: ADVANCED INSTRUMENTAL ANALYSIS (Theory)

CO 1: To get detailed information on HPLC.

CO 2: To attain information on biochromatography and gas chromatography.

CO 3: To obtain knowledge on supercritical fluid chromatography and capillary electrophoresis.

CO 4: To understand the concepts of mass spectrometry.

CO 5: To get knowledge on NMR spectroscopy.

MPA 202T: MODERN BIO-ANALYTICAL TECHNIQUES (Theory)

CO 1: To get knowledge on extraction procedures of drugs and metabolites from biological matrices and bioanalytical method validation guidelines.

CO 2: To gain information on biopharmaceutical considerations in analysis.

CO 3: To attain knowledge on pharmacokinetics and toxicokinetics.

CO 4: To understand the concepts of cell culture techniques.

CO 5: To know about metabolite identification and testing of drug product performance, and *invivo* bioavailability and bioequivalence determination.

MPA 203T: QUALITY CONTROL AND QUALITY ASSURANCE (Theory)

CO 1: To attain knowledge on concepts of good laboratory practices.

CO 2: To understand various cGMP and CPCSEA guidelines.

CO 3: To know about the analysis and quality control testing of raw and finished components including packaging materials.

CO 4: To attain information on documentation in pharmaceutical industry.

CO 5: To get the picture on manufacturing operations and controls in a pharmaceutical industry.

MPA 204T: HERBAL AND COSMETIC ANALYSIS (Theory)

CO 1: To get knowledge on remedies, toxicity and regulations related to herbal products.

CO 2: To understand the process of detection of adulteration and deterioration and various regulatory requirements for setting a herbal drug industry.

CO 3: To know about testing of natural products and various monographs of herbal drugs.

CO 4: To get information on herbal drug-drug interactions and guidelines.

CO 5: To know the evaluation and Indian standard specifications of cosmetics and baby products.

SEMESTER – III

MRM 301T: RESEARCH METHODOLOGY AND BIOSTATISTICS (Theory)

CO 1: To gain knowledge on research study designs.

CO 2: To know about various biostatistical parameters and their application in pharmaceutical research.

CO 3: To attain knowledge on medical research and ethics.

CO 4: To get information on guidelines for conducting animal experiments.

CO 5: To get the picture on declaration of Helsinki regarding medical research.