First Semester	

Modern Pharmaceutical Analytical Techniques [Theory | Regular]

CO ID.	Course Outcome
MPH101T.4	CO.4.To understand the principles involved in various chromatography techniques such as paper,TLC,ion exchange,HPLC,and HPTLC etc
MPH101T.5	CO.5.To know the basic construction and working of chromatographic techniques
MPH101T.1	CO.1.Remember and understand the electromagnetic spectrum, spectroscopy and its importance in Pharmaceutical analysis.
MPH101T.2	CO.2.Describe the instrumentation of various spectro-analytical techniques.
MPH101T.3	CO.3 Explain the applications of different spectro-analytical techniques for the qualitative and quantitative analysis.

Drug Delivery System [Theory | Regular]

CO ID.	Course Outcome
CO1	To learn Principle, conceptsadvantages and disadvantages, Modulation of GI transit timeapproaches to extend GI transit. Buccal Drug Delivery Systems
CO2	To learn Principles &Fundamentals, Types, Activation; Modulated Drug DeliverySystems
CO4	To learn basic concepts and methods of Occular Drug Delivery Systems
CO5	To learn Structure of skin andbarriers, Penetration enhancers, Transdermal Drug DeliverySystems, Formulation and evaluation.
CO6	To learn about Barriers for protein delivery. Formulation and Evaluation of delivery systems of proteins andother macromolecules.
CO7	To learn about Vaccines, uptake of antigens, singleshot vaccines, mucosal and transdermal delivery of vaccines.

Regulatory Affairs [Theory | Regular]

CO ID.	Course Outcome
CO1	Understanding concept of Dossiers and their submission to regulatory agencies in different countries
CO2	To understand Preparation and Submission of global documents in CTD/ eCTD formats
CO3	Elaborate process and Concepts of innovator and generic drugs, drug development process
CO4	Understand and execute Clinical trials requirements for approvals, Pharmacovigilence and process of monitoring in clinical trials.

Modern Pharmaceuticals [Theory | Regular]

CO ID.	Course Outcome
CO1	To understand the importance and elements of preformulation studies.
C02	to understand the optimization techniques and methods of optimization
CO3	To understand validation techniques and cGMP practices.
CO4	To understand physics of tablet compression , effect of friction, and distribution of force.
CO5	To understand Dissolution parameters and Pharmacokinetic parameters,

Computer Application [Theory | Elective]

CO ID.	Course Outcome
Co1	. Know the various types of application of computers in pharmacy
Co2	Know the various types of databases
Co3	Know the various applications of databases in pharmacy

Communcation Skills [Theory | Regular]

CO ID.	Course Outcome

CO1	To explain the key terminologies of process of communication
CO2	communicate effectively by emphasizing on practical communication through refurbishing their existing language skills and also to bring one and all to a common take-off level.
CO3	To develop good presentation skills by learning the essential steps for its planning and preparation, and effective use of verbal & non-verbal communication for delivering a business presentation.
CO4	To develop academic writing skills.
CO5	To enhance employability skills of the learners by enabling them to write effective resume and face the interview with confidence.
CO6	To develop competencies to form written communication strategies necessary in the workplace, and to execute them for effective communication.

Pharmaceutical Practical-I [Practical | Regular]

CO ID.	Course Outcome
CO1	To study the procedure for Analysis of pharmacopoeial compounds and their formulations
CO2	To understand, Simultaneous estimation of multi component containing formulations by UV spectrophotometry
CO3	To understand the Experiments based on Gas Chromatography and HPLC
CO4	To perform and understand experiments on fluorimetry and flame photometry
CO5	To perform In-vitro dissolution profile of CR/ SR marketed formulation.
CO6	To understand, formulation and evaluation of Muco adhesive tablets,osmotically controlled DDS,Floating DDS- hydro dynamically,f trans dermal patches
CO7	To understand t preformulation, formulation, evaluation of tablets, and toplot Heckal plot, Higuchi and peppas plot and determine similarity factors

Second Semester

Advanced biopharmaceutics & Pharmacokinetics [Theory | Regular]

CO ID.	Course Outcome
C1	Students should understand absorption of drugs and factor affecting absorption.
C2	Understand the concept of dissolution of drugs.
C3	Student should able to solve pharmacokinetic models and it parameters.
C4	Student should able explain the bioavailability and bioequivalence study of drugs
C5	Student should able to understand the principles and applications of pharmacokinetic study of drugs.

Cosmetic & Cosmeceuticals [Theory | Regular]

CO ID.	Course Outcome
MPH204T.1	CO1 To know about various problem related to human body which need use of cosmectics and cosmeceuticals
MPH204T.2	CO2 Understand the key building blocks for various formulation
MPH204T.3	CO3 use of herbal ingredients and its regulatory scenario
MPH204T.4	CO4 Analyze and develop scientific knowledge to develop cosmetics with safety,stability and efficacy

Literature review & preclinical studies [Theory | Elective]

CO ID.	Course Outcome
CO1	To know various parts of review and research paper, Abstract, Introduction, Keywords, graphical abstract , material and methods, result and discussion, figures, tables, summary or conclusion, conflict of interest, reference writing.
CO2	To know Types of journals and journal finding, role of impact factor in selecting journal, role of language and effective writing on the article selection
CO3	To know Various tools used in the writing of research or review articles: use of MS words, PubMed, Mendley software, google search, google scholar
CO4	To know the detailed preclinical studies

Structural Elucidation [Theory | Elective]

CO ID.	Course Outcome

SET.1	CO1 To study of range of EMR and their parameter, Wavelength, frequency, velocity, different types of electronics transition and Woodward fisher rule for conjugated compounds.
SET.2	CO.2 To understand problems based on joint applications of UV, IR, 1H NMR, 13C NMR and Mass spectroscopy

Pharmaceutical Practical-II [Practical | Regular]

CO ID.	Course Outcome
CO1	To study the effect of temperature change , non solvent addition, incompatible polymer addition in microcapsules preparation
CO2	To study Preparation and evaluation of Alginate beads and gelatin /albumin microspheres
CO3	To Study Formulation and evaluation of liposomes/niosome
CO4	To study Improvement of dissolution characteristics, . Improvement of dissolution characteristics,
CO5	To perform, Protein binding studies , In vitro cell studies for permeability and metabolism, Bioavailability studies of Paracetamol in animals. To develop Clinical Data Collection manual.
CO6	To learn . Quality-by-Design and pharmacokinetic study software like Design Expert
CO7	Development and evaluation of cosmeceuticals like shampoo, cream, etc

MPH 201T Molecular Pharmaceutics [Theory | Regular]

CO ID.	Course Outcome
CO1	To understand various concepts and events of Targeted Drug Delivery Systems
CO2	Understand the biological process involved in drug targeting.
CO3	Understand the various concept and methods of Tumor targeting and Brain specific delivery.
CO4	Understand the introduction, preparation, classification and evaluation of Nano Particles & Liposomes
CO5	To understand knowledge about the preparation and application of microspheres, Monoclonal Antibodies Niosomes, Aquasomes, Phytosomes, Electrosomes
CO6	To understand various concepts of Pulmonary Drug Delivery System and Intra Nasal Route Delivery systems
CO7	understand gene therapy and Nucleic acid based therapeutic delivery system.
CO8	To know about therapeutic antisense molecules and aptamers as drugs of future.

MPH 203 T Computer aided drug delivery system [Theory | Regular]

CO ID.	Course Outcome
CO 1	At the end of the course students will be able to... CO1: Explain the various stages of drug discovery
CO 2	CO2: Learn the concept of bioisosterism and drug resistance
CO 3	Describe physicochemical Properties and the techniques involved in QSAR
CO 4	Learn introduction to Bioinformatics and Cheminformatics
Co 5	Learn methods in molecular and quantum mechanics.
CO 6	Explain various structure based drug design methods (Molecular docking, Denovo drug design)
Co 7	Learn the concept of pharmacophore and modelling techniques
CO 8	Explain the various techniques in Virtual Screening