Dayananda Sagar University
College of Pharmaceutical Sciences

Course Outcomes – M. Pharm (Pharmaceutics)

1st Sem M. Pharm (Pharmaceutics)

Sl No	Subject Code	Subject Name	Course Outcomes
1	17MPH101	Modern Pharmaceutical Analytical Techniques	**Upon completion of this course, the students will be able to –** 1. Measure and estimate the amount of drug present in the sample by UV, IR, Fluorimetry and Flame Photometry and describe the components of analytical instruments. 2. Apply the concepts of NMR and interpret the compound to elucidate the structure. 3. Describe the various types of Ionization techniques, mass analyzers and interpret the compound by Mass spectrometry. 4. Prefer the chromatographic method to separate and identify the mixture of compounds. 5. Describe the types of electrophoresis and study the concepts of X-ray 6. diffraction and Immunological assays.
2	17MPH102	Drug Delivery System	**Upon completion of this course, the students will be able to -** 1. Outline the concepts and factors influence the design of controlled release formulations. 2. Envisage types of patients for personalized medicine. 3.Demonstrate the formulation aspects and characterization of buccal drug delivery systems. 4. Analyse the approaches to overcome the barriers of ocular drug delivery.

			5. Demonstrate the formulation of transdermal drug delivery systems and their evaluation. 6. Elaborate the various approaches for delivering protein and peptides. 7. Explicate the various techniques for the transdermal and mucosal delivery of vaccines.
3	17MPH103	Modern Pharmaceutics	**Upon completion of the course, the student shall be able to –** 1. Elucidate the preliminary evaluation test and elements required for pre-formulation studies. 2. Implementation of ICH & WHO guidelines for calibration and validation of equipment's. 3. Illustrate the key parts of Industrial management and policies of cGMP 4. Explicate the physics of tablet making, giving special emphasis on distribution and measurement of forces involved in it. 5. Critique on various consolidation parameters.
4	17MPH104	Regulatory Affairs	**Upon completion of the course, the student shall be able to –** 1. Annotate concepts of various regulatory agencies for filing and approval process of pharmaceuticals and documentation requirements of the same. 2. Enumerate the ways and means of US registration for foreign drugs. 3. Explicate the FDA liaisons and ICH guidelines-QSEM. 4. Outline the regulatory requirements of IND, NDA and ANDA in non-clinical drug development. 5.Applications of regulatory requirements in developing clinical trial

			protocols.

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2nd Sem M. Pharm (Pharmaceutics)

Sl No	Subject Code	Subject Name	Course Outcomes
1	17MPH201	Molecular Pharmaceutics	**Upon completion of this course, the students will be able to –** 1. Demonstrate various drug delivery systems for targeting drugs into the brain and tumour. 2. Outline the applications of nanoparticles and liposomes in drug targeting. 3. Explicate the preparation and characterization of carriers like aquasomes, phytosomes and electrosomes. 4. Illustrate the various techniques for the pulmonary delivery of drugs. 5. Outline the drug delivery systems for the delivery of genes for gene therapy.
2	17MPH202	Advanced Biopharmaceutics and Pharmacokinetics	**Upon completion of this course, the students will be able to -** 1. Enumerate the different types of mechanism of absorption and various types of factors influencing the drug mechanism from the GIT. 2. Analyze the biopharmaceutic considerations in drug product design and In Vitro Drug Product Performance. 3. Critique on the features of different types of pharmacokinetic models and importance of drug interactions. 4. Explicate the design and purposes of bioavailability and bioequivalence studies of new drugs or dosage forms and biopharmaceutical classification system. 5. Evaluation of Pharmacokinetics and pharmacodynamic

			drug interactions.
3	17MPH203	Computer Aided Drug Delivery System	**Upon completion of the course, the student shall be able to –** 1. Outline the history of computers in Pharmaceutical R & D, annotate the modelling techniques and implement the knowledge of QbD in Pharmaceutical preparations 2. Memorize and implement the computational modeling techniques of drug disposition 3. Infer the concept of optimization and screening design, summarize the legal protection of innovations and ethics in research, analyse the role of computers in market analysis 4. Implement the role of gastrointestinal absorption simulation, determine the importance of computers in PK and PD simulations and clinical development 5. Interpret the role of Artificial intelligence, robotics and computational fluid dynamics in Pharmaceuticals.
4	17MPH204	Cosmetic and Cosmeceuticals	**Upon completion of the course, the student shall be able to –** 1. Critique the various regulations governing the manufacture, sale, import and labelling of cosmetics and obtaining the license for the same. 2. Summarize the biological aspects of problems relating to skin, hair and oral cavity. 3. Applications of emmolients, surfactants, antimicrobials as building blocks of cosmetics in various cosmetic formulations. Classify perfumes

			and list perfume ingredients as allergens in EU regulation. **4.** Design of cosmeceutical products for skin, hair and oral care.

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