Gujarat Technological University

M. Pharm.
Semester III
Paper-V
Paper code: 930108
Industrial Pharmacy Paper-V
Theory
(Four hours per week, 7 credits)

1. Advances in pharmaceutical process technology including lyophillization, extrusion spheronization, FFS/BFS, prefilled syringes, Electrostatic coating, fluid bed granulating and coating, ALU-ALU packaging, laser printing
2. Novel formulation process technology; concepts and systems design on bases of flow chart of manufacturing of rate controlled drug delivery, liposome, niosomes, TDDS, mucoadhesive, osmotic, floating, micro and nanoparticulate drug delivery etc.
3. Good engineering practice, maintenance and cleaning in industrial pharmacy

Reference Books:

1. Pharmaceutics "The Science of Dosage Form Design" by Aulton.
2. Encyclopedia of Pharmaceutical Technology Volumes: 1 to 19.
3. Remingtons Pharmaceutical Sciences 19th edition.
4. Modern Pharmaceutics by G.S.Banker
5. Yie W. Chien, Novel Drug Delivery Systems, Drugs and Pharm. Sci. Series, Vol.14, Marcel Dekker Inc.N.Y.
6. Encyclopedia of pharmaceutical technology; volume 9 Metered dose inhalers
7. Praveen Tyle , Drug delivery devices: fundamentals and applications, Marcel Dekker.
8. Robinson & Lee, controlled drug delivery: fundamentals and applications, 2nd edition
9. Chien Y.W., Novel fundamentals, developmental concepts, biomedical assessments.
10. G.S.Banker, Modern Pharmaceutics, 3rd edition.
11. Protein Formulation and Delivery, Second Edition, edited by Eugene J. McNally and Jayne E. Hastedt
12. Oral-Lipid Based Formulations: Enhancing the Bioavailability of Poorly Water-soluble Drugs, edited by David J. Hauss
13. Microencapsulation: Methods and Industrial Applications, Second Edition, edited by Simon Benita.

Practical
(Six hours per week, 8 Credits)

Practical design formulated based on the topics such as Lab Level development of Novel pharmaceutical processes, Pharmaceutical process technology etc.