

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E. SEMESTER : VI**  
**CHEMICAL TECHNOLOGY**

**Subject Name: Technology of Solid Dosage Forms & Medicinal Natural Products**  
**Subject Code: 163605**

| Teaching Scheme |          |           |       | Evaluation Scheme  |                    |                          |                      |
|-----------------|----------|-----------|-------|--------------------|--------------------|--------------------------|----------------------|
| Theory          | Tutorial | Practical | Total | University Exam(E) | University Exam(P) | Mid Sem Exam(Theory) (M) | Practical (Internal) |
| 4               | 0        | 3         | 7     | 70                 | 0                  | 30                       | 50                   |

| Sr. No | Course contents  |
|--------|--|
|        | <b>Technology of Solid Dosage Forms</b>  |
| 1.     | Reformulation, Formulation, Evolution, Large scale manufacture & packing with focus on equipment with reference to tablets.  |
| 2.     | Coated tablets, Capsules: Hard gelatin & soft gelatin, microcapsules. Layout design & Unit operations related to above dosage forms.   |
|        | <b>Medicinal Natural Products</b>  |
| 3.     | Scope of the subject, Source of the drug of natural origin, Classification of drug, factors involved in the production of drugs.   |
|        | <b>Phytochemistry</b>  |
| 4.     | Chemical constituents in the production of plants (carbohydrates, protein enzymes, lipids, alkaloids, glycosides, steroids, tannins, terpenoids, flavonoids, plant pigments, etc). Biosynthesis approach |
| 5.     | Extraction & isolation of plant drugs: conventional & modern techniques used in extraction & separation of phytoconstituents   |
| 6.     | Quality control, application of spectroscopy & chromatography techniques for isolation, identification & analysis of phytoconstituents   |
| 7.     | Detailed study of one representative from each of the above mentioned chemical class (10 drugs)<br>Recent advances in phytopharmaceuticals   |

**Reference Books:**

1. Remington's Pharmaceutical Sciences, A.R. Gennaro Mac Pub. Co. Easton, Pennsylvania 1990.
2. Indian pharmacopoeia, British Pharmacopoeia, United States Pharmacopoeia.
3. Coated Pharmaceutical Dosage Forms, K.H. Bauer, CRC Press, Boca Raton. Med Pharm.1998
4. Pharmaceutical Coating Technology, G.C. Cole, New York, Ellis, Horwood, 1990
5. Pharmaceutical Unit Operations : Coating, K Avis, A Shukla and R Chang, Interpharm Press, 1998
6. Pulsed & Self-Regulated Drug Delivery, J.Kost, Florida, CRC Press, 1987
7. Extended Release Dosage Forms, - Klow Czynski, Florida, CRC Press 1987

8. Treatise on Controlled Drug Delivery, A. Kydonieus, CRC Press 1991
9. The Theory & Practice of Industrial Pharmacy Lachman., Bombay, K.M. Warghese Co. 1976
10. Pharmaceutical Dosage Forms Vol. I & II, Liebermann, New York, Marcel Dekker, 1996
11. Hard Capsules : Development & Technology, K.Ridgway , London Pharmaceutical Press, 1987
12. Medicinal Natural Products, A Biosynthetic Approach, Paul M. Dewick, Chichester: John Wiley & Sons, Ltd., 2<sup>nd</sup> Ed., 2002
13. Strategies for Organic Drug Synthesis & Design, & Daniel Led nicer, John Wiley & Sons Inc. New York., 2<sup>nd</sup> Ed, 1998
14. Organic Chemistry of Drug Synthesis: Vol.1 to 6, Daniel Lednicer, John Wiley & Sons Inc.
15. Burger's Medicinal Chemistry & Drug Discovery: Vol. 1 to 6, A. Burger & M.E.Wolff, John Wiley & Sons – New Jersey,6<sup>th</sup> Ed, 2003
16. Foye's Principles of Medicinal Chemistry, W.O. Foye, Lippincott Williams & Wilkins- Philadelphia, Oxford, 6<sup>th</sup> Ed, 2008
17. Text book of Medicinal & Pharmaceutical Chemistry, Charles Owens Wilson Lippincott Williams & Wilkins – Philadelphia. 1962
18. Organic Synthesis – The Disconnection Approach, Warren S., John Wiley & Sons – Chichester.,1<sup>st</sup> Ed., 2005
19. Pharmaceutical Substances: Synthesis, Patents, Applications (N-Z), A. Kleemann, Georg Thieme Verlag,Stuttgart.4<sup>th</sup> Ed, 2001
20. Textbook of Medicinal & pharmaceuticals Chemistry, Wilson & Gisvold ., Williams & Wilkins,1<sup>st</sup> Ed, 2004.
21. Phytopharmaceutical Technology, P H List & C C Schmidt, John Wiley & Sons, 1991
22. Phytochemical Techniques, Raaman N, New India Publishing House, 2006