

THEORY**UNIT - I**

Fundamentals of controlled drug delivery systems, terminology, potential advantages, drug properties relevant to formulation, pharmacokinetic and pharmacodynamic basis of controlled drug delivery.

Design, fabrication, evaluation and applications of the following controlled release systems:

1. Controlled release oral drug delivery systems.
2. Modulated GI retentive drug delivery systems.

UNIT - II

3. Parenteral controlled drug delivery systems
4. Implantable therapeutic systems.
5. Transdermal therapeutic systems.
6. Ocular and intrauterine delivery systems.

UNIT - III

7. Bioadhesive drug delivery systems.
8. Proteins and peptide drug delivery
9. Resealed erythrocytes
10. Colloidal drug delivery systems: Liposomes, microspheres, nanoparticles and polymeric micelles

UNIT - IV

Drug targeting: Concepts and drug carrier systems.

Approaches to active drug targeting: Monoclonal antibodies, Targeting to particular organs such as brain, lungs, liver and targeting to neoplastic diseases.

REFERENCES:

1. Remington's Pharmaceutical Sciences.
2. Novel Drug Delivery Systems by Y.W.Chein, Marcel Dekker, Inc.
3. Controlled Drug Delivery Systems by Joseph R.Robinson and Vincent ILL.Lee.
4. Bentley's Text book of Pharmaceutics by Rawlins, EL. Publications.
5. Microencapsulation by Simon Benita, Pub. By Marcel Dekker Inc.
6. Drug Targeting and Delivery edited by H.E.Junginger
7. Specialized Drug Delivery Systems edited by Praveen Tyle, Pub. By Marcel Dekker Inc.
8. Colloidal Drug Delivery System by Jorg Kreuter.