Question bank for unit 1

2 Marks Questions

1. Define controlled drug delivery system.
2. What is a sustained release formulation?
3. Name two advantages of controlled release drug delivery systems.
4. What is the role of polymers in controlled drug delivery?
5. Give two examples of biodegradable polymers.
6. Define matrix system in drug delivery.
7. What is dose dumping?
8. Mention any two physicochemical properties of drugs relevant to CDDS.
9. What is the difference between controlled release and extended release?
10. Name any two approaches used in controlled release formulations.

5 Marks Questions

1. Write the advantages and disadvantages of controlled drug delivery systems.
2. Explain the criteria for selection of drug candidates for controlled release formulations.
3. Describe the diffusion-controlled drug delivery system with examples.
4. Explain the role of polymers in controlled drug delivery systems.
5. Discuss the physicochemical properties of drugs relevant to controlled release formulations.
6. Differentiate between reservoir and matrix systems.
7. Write a short note on ion-exchange resin-based drug delivery systems.
8. Explain the classification of polymers used in CDDS.
9. Discuss the rationale behind the development of controlled drug delivery systems.
10. Write a note on the dissolution-controlled drug delivery system.

10 Marks Questions

1. Explain in detail the approaches for designing controlled release formulations based on diffusion, dissolution, and ion-exchange principles.
2. Discuss the physicochemical and biological properties of drugs relevant to controlled release formulations with suitable examples.
3. Describe the classification, properties, advantages, and applications of polymers in controlled release drug delivery systems.
4. Explain the selection criteria for drug candidates suitable for controlled drug delivery systems. Add examples.
5. Write an essay on the advantages, disadvantages, and rationale for the development of controlled drug delivery systems.
6. Discuss the design and mechanism of matrix and reservoir type controlled release systems with diagrams.
7. Explain in detail the role of biodegradable and non-biodegradable polymers in controlled drug delivery.
8. Describe the various types of controlled release drug delivery systems and their mechanisms.
9. Discuss the challenges and limitations in the formulation of controlled drug delivery systems.
10. Write a detailed note on the application of polymers in the design of controlled release formulations.

Sample Previous GPAT/MRB/TNMGRMU Questions

- **GPAT:**
    - "Which of the following is NOT a property of an ideal polymer for controlled drug delivery?"
    - "Explain the mechanism of drug release from a matrix system."
    - "List the advantages of using biodegradable polymers in drug delivery."
- **MRB:**
    - "Mention any two disadvantages of controlled drug delivery systems."
    - "What is the significance of drug half-life in controlled release formulations?"
- **TNMGRMU:**
    - "Write a note on the classification of polymers used in controlled drug delivery."

- "Describe the physicochemical factors influencing the selection of drugs for controlled release."