[Total No. of Questions - 13] [Total No. of Printed Pages - 2]

DEC-23-0093

BP-704 T (Novel Drug Delivery Systems)

B.Pharm-7th (PCI)

Time : 3 Hours **Max. Marks : 75**

Note: The question paper contains three sections in all, Section A, B and C. In Section A, all questions are compulsory. From Section B student has to attempt any two questions and from Section C student has to attempt any seven questions.

SECTION-A (10×2=20)

Short Answer (Compulsory)

1. Answer the Following:
   a. Define Circadian rhythm.
   b. Dose dumping
   c. Give composition of coating material.
   d. Explain zero order release profile.
   e. Define permeation enhancers with two examples.
   f. What is the role of viscosifying agents in novel ocular drug delivery system?
   g. Write the use of Franz diffusion cell.
   h. What are Osmogens? Give two examples.
   i. Differentiate between block and graft copolymer.
   j. What is the role of propellants in Metered-Dose inhalers?

SECTION-B (2×10=20)

Long Answer (Any Two)

2. Explain the concept of controlled drug delivery systems. Discuss various approaches to design controlled release formulations.
3. Discuss the concept, need and rationale of drug targeting. Describe different approaches for targeted drug delivery.
4. Write in detail about intra ocular barriers and methods to overcome them.

SECTION-C (7×5=35)

Short Note Answer (Any Seven)

5. Give classification of polymers used in the formulation of controlled release drug delivery systems. Mention the limitations of non-biodegradable synthetic polymers.
6. Enlist and explain different evaluation methods of microcapsules.
7. Illuminate different theories of mucoadhesion.
8. Explain in brief the important components and principle of an osmotic pump.
9. Explain matrix diffusion-controlled system approach for formulation of TDDS.
10. What are metered dose inhalers and how are they formulated.
11. Describe the concept of monoclonal antibodies with their applications.
12. Write a note on medicated intrauterine devices (IUDs)?
13. What are liposomes? Classify them. Write various structural components of liposomes.

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