

**Time: Three Hours**

**Max. Marks: 75 Marks**

**Drug Delivery System**

**Q.P. CODE: 5128**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

**LONG ESSAY (Answer any Three)**

**3 X 10 = 30 Marks**

1. Write the classification of polymers with their properties and applications.
2. Explain the concepts of gastro retentive drug delivery system. Give the advantages and disadvantages.
3. Explain the different approaches for the development of Transdermal delivery system.
4. Explain the barriers for protein drug delivery and strategies to overcome these barriers.

**SHORT ESSAY (Answer any Nine)**

**9 X 5 = 45 Marks**

5. Write a note on 3D printing of pharmaceuticals.
6. Explain the methods to overcome the barriers for drug permeation by ocular route.
7. Explain with example the feedback regulated drug delivery systems.
8. Explain the techniques for transdermal delivery of vaccines.
9. Write a note on pH activated drug delivery system.
10. Discuss the various permeation enhancers used in Transdermal delivery system.
11. Briefly explain the principle of mucoadhesion.
12. Stabilizers used in the preparation of Protein Drug Delivery System
13. What do you understand by Telepharmacy?
14. Explain mechanical activated delivery system.

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