

(2 hours)

[Total marks: 40]

N. B. (1) Question No. 1 is compulsory.

(2) Answer **any three** of the remaining five questions.

(3) Figures to the right indicate full marks.

1. (a) Discuss two design approaches to transdermal drug delivery system. 5
- (b) Enlist the techniques to enhance gastric retention. Elaborate on floating systems. 5
2. Discuss factors affecting Mucoadhesive strength of polymers. Describe any two tests to evaluate mucosdhhesive strength of polymers. 10
3. Write notes on: 10
 - (a) Ocular lotophoresis.
 - (b) Characterization of nanoparticles.
4. (a) Discuss need for colon specific release of drugs. Explain pH based approach to colon specific release. 5
- (b) Explain mechanism of spontaneous formation of liposomes. Discuss any one method for preparation of liposomes. 5
5. (a) Write in brief on strategies to target drug to the brain. 5
- (b) Write a note on non-erodible ocular inserts. 5
6. (a) With the help of a diagram describe push pull type of osmotic drug delivery system 5
- (b) Discuss mechanisms of transdermal absorption and use of penetration enhancers in transdermal drug delivery systems 5