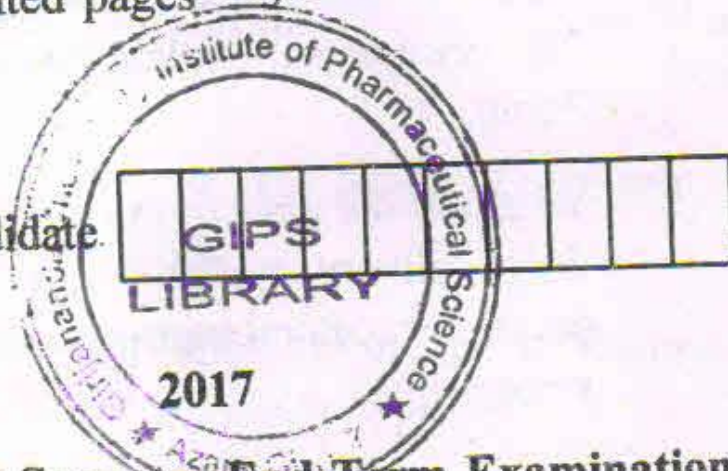


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Total No. of printed pages = 3

PY 134202

Roll No. of candidate.



**M. Pharm 2nd Semester End-Term Examination**  
**NOVEL DRUG DELIVERY SYSTEMS**

Full Marks-100    Pass Marks-35    Time-Three hours

The figures in the margin indicate full marks  
for the questions.

Answer any *five* questions.

1. (a) Enlist parameters to be considered in the design of controlled drug delivery system. Discuss various approaches for oral delayed release drug delivery system. 3+3=6
- (b) Describe application of nanoparticle drug delivery system. 5
- (c) Which categories of drug are suitable for GRDDS and why? Explain expandable approach for GRDDS. 4+5=9

[Turn over

2. (a) Enlist patented techniques of osmotic drug delivery system. Explain Higuchi -Theeuwes Pump.  $4+3=7$
- (b) What are the objectives of oral transmucosal drug delivery system? Discuss evaluation parameters of oral transmucosal drug delivery system.  $3+5=8$
- (c) Name at least four different methods used in determination of particle size in nanoparticles. Define Niosomes.  $2+3=5$
3. (a) Discuss the enzymatic barrier for delivery of P and P Drug. 4
- (b) Enumerate various concepts for drug targeting. Discuss with example passive, reverse and active targeting.  $4+6=10$
- (c) Discuss factors affecting on drug release from osmotic drug delivery system. 6
4. (a) Discuss briefly different controlled release approaches of parenteral drug delivery. 10
- (b) Discuss various approaches of floating drug delivery system. 6
- (c) Discuss the method of drug content and folding endurance test of TDDS. 4



5. (a) Discuss different application of nanoemulsion. 6
- (b) Discuss non covalent instability of protein and peptide drug. 7
- (c) Write the mathematical model for diffusion controlled drug delivery system. 7
6. (a) Write the recent development of intrauterine drug delivery system. 10
- (b) Enlist various methods used for bioadhesive property measurement. Discuss any one. 10
7. (a) Classify types of Liposomes based on composition. Explain mechanism of liposome preparation. 10
- (b) Describe recent advances in semi solid dosage form. Explain hydrogel. 10