

M.Pharm. 1st Semester End-Term Examination

## DRUG DELIVERY SYSTEM

(New Regulation)

Full Marks - 75

Time - Three hours

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

1. Answer all the questions:

 $(10\times2=20)$ 

- (a) What is diffusion controlled CR formulation?
- (b) Define Hydrogel.
- (c) What is smarts polymer?
- (d) Define Pharmacogenomics and drug idiosyncracy.
- (e) Derive the equation that determines the rate of drug release.
- (f) Mention the drugs unsuitable for Gastro retensive drug delivery system.

- (g) What are collagen shields?
- (h) How to determine the tensile strength of TDDS?
- (i) Name the enzymes responsible for degradation of P and P drugs.
- (j) What is DNA vaccine?
- 2. Answer the followings (Any Seven)  $(7 \times 5 = 35)$ 
  - (a) Discuss the influence of protein binding and partition coefficient on the formulation of CR formulation.
  - (b) Discuss the significance of Hospital telepharmacy in community pharmacy.
  - (c) Write short notes on bioelectronic medicine.
  - (d) Discuss the principles of pH activated rate controlled drug delivery system.
  - (e) Discuss in brief the theories of mucoadhesion.
  - (f) What are the mechanisms of permeation enhancer used in TDDS?
  - (g) What are the barriers of drug permeation in ocular drug delivery system?
  - (h) Discuss the barriers of drug delivery of Protein and Peptide drug delivery through oral route of administration with suitable examples.
  - (i) Write short notes on single short vaccines.

- (a) Discuss about in vitro and in vivo problems associated with protein and peptide drug delivery system. Give your comment on formulation aspects of protein and peptide drug delivery with suitable examples.
- (b) Discuss the methods of formulation and evaluation of Trausdermal drug delivery systems.
- (c) Discuss in detail the evaluation methods of bioadhesive drug delivery systems.