

- (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.

3. Answers any two.

(2 × 10 = 20)

- (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 Transdermal drug delivery systems.
 - (c) Discuss in detail the evaluation methods of bioadhesive drug delivery systems.
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