Total No. of printed pages = 4

BP 704T

Roll No. of candidate | | | | | | | | | | |

2023

B.Pharm. 7th Semester End-Term Examination

(Regular)

NOVEL DRUG DELIVERY SYSTEM

Full Marks – 75 Time – Three hours

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

1. Answer the following questions : (20 × 1 = 20)

(i) Rate determining step for controlled release delivery system is

(a) Absorption (b) Drug release from dosage form

(c) Both (d) None

(ii) More than 95% drug are absorbed by ———— mechanism

(a) Dissolution (b) Diffusion

(c) Passive diffusion (d) Direct absorption

(iii) The biological factor influencing the design and act of controlled release product is

(a) Partition coefficient (b) Absorption

(c) Molecular size (d) Solubility

(iv) Drug with ———— therapeutics index are unsuitable for incorporation in controlled release formulation.

(a) High (b) Low

(c) Moderate (d) None of this

(v) Zero order kinetics is attained in

(a) Sustain release (b) Controlled release

(c) Enteric coating (d) Immediate coating

[Turn over

(vi) Following is delayed release system

(a) Diffusion controlled release system

(b) Colon targeted system

(c) Diffusion controlled release system

(d) Hydrodynamic controlled release system

(vii) Drug having molecular weight ———— is good candidate for controlled release dosage form

(a) More than 2000 dalton

(b) Less than 600 dalton

(c) Over and above 1000 dalton

(d) None of the above

(viii) The absorption of the ophthalmic drug does not depend on which of the following

(a) Physiochemical properties of the permeation molecule

(b) Drainage of tears

(c) Output of tears

(d) Size of the eye

(ix) The drugs that cannot be administered transdermally are

(a) Drugs with very short half life

(b) Drugs with narrow therapeutic indices

(c) Easy removal and termination

(d) Drugs against peptic ulcer

(x) Mechanism of controlled drug delivery include

(a) Osmotic controlled

(b) Bio responsive controlled release

(c) Dissolution controlled

(d) All of the above

(xi) Ideally, the drug should have half life to be formulated in controlled release dosage

(a) 3-4 hrs (b) 1-2 hrs

(c) 6-7 hrs (d) 9-10 hrs

(xii) Floating drug delivery dosage forms are prepared by using following polymer

(a) Gelatin (b) HPMC

(c) EC (d) MC

(xiii) Glyceryl trinitrate is given through sublingual route because of

(a) Short plasma half life

(b) Hepatic first pass metabolism avoidance

(c) Protein binding

(d) Lower bioavailability by oral route

(xiv) Matrix system are also known as

(a) Reservoir type (b) Monolithic system

(c) Microcapsule (d) All of the above

(xv) First transdermal patch approved in 1979 was for the following drug

(a) Pain (fentanyl)

(b) Motion sickness (Scopolamine)

(c) Smoking cessation (nicotine)

(d) Lidocaine

(xvi) Physicochemical factor effecting TDDS

(a) Sunlight (b) Partition co-efficient

(c) Air pollution (d) Cold season

(xvii)The characteristic that is suitable for transdermal drug is

(a) Large drug dose

(b) Large molecular size

(c) Drug with narrow therapeutic index

(d) Drug which are metabolised in the skin

(xviii)The primary barrier to TDD is

(a) Dermis (b) Epidermis (stratum corneum)

(c) Hypodermis (d) All of the above

(xix) The mechanism of chemical permeation enhancer is

(a) Cause deposition of penetrant in the SC

(b) Alter physicochemical properties of SC

(c) Cause reversible damage to the SC

(d) Both (b) and (c)

(xx) Stratum cornium an outermost layer of skin is also called as

(a) Corneocytes (b) Horny layer

(c) Hypodermis (d) Dermis

2. Answer the following questions (any *seven*) (7 × 5 = 35)

(a) Explain the principle involved in the design of controlled drug delivery systems.

(b) Define controlled drug delivery systems with examples. Explain the approaches for the Controlled release formulations based on ion exchange technique.

(c) Differentiate between microcapsule and microspheres. Enlist various methods of microencapsulation and explain any one of them.

(d) Classify polymers with examples of each class. Name any two polymers used in the matrix type of controlled drug delivery formulations.

(e) What are mucosal DDS? Explain the formulation of buccal drug delivery system.

(f) Explain concept, advantages and disadvantages of implants.

(g) Describe all the criteria to be considered for the selection of drugs to be formulated into a transdermal DDS with examples.

(h) Describe in details about of gastroretentive drug delivery system with advantages and disadvantages.

(i) Classify and describe the types of IUDs.

3. Answer the following questions (any *two*) (2 × 10 = 20)

(a) Discuss factors affecting gastric retention. Mention different requirements for formulation of floating drug delivery system (FDDS). Discuss in-vitro and in-vivo evaluations of FDDS in brief. (3+2+5=10)

(b) Define nanoparticle? Write the importance of nanoparticles in target drug delivery systems with suitable examples. (2+8=10)

(c) Discuss permeation of the drug through the skin and explain the factors affecting permeation of drug through skin. Write a note on Matrix Transdermal Patch. (7+3=10)