Total No. of Questions : 18] **B.PH 701**

[Total No.of Pages : 02

III/IV B. PHARMACY DEGREE EXAMINATIONS, JUNE / JULY -2022

Seventh Semester

PHARMACEUTICS - III (BIOPHARMACEUTICS, PHARMACOKINETICS & NEW DRUG DELIVERY SYSTEMS)

Time : **Three Hours** Maximum : **70** Marks

SECTION - A

Answer any FOUR Questions. **4x10 = 40 M**

1. Explain in detail about fate of drug after administration & significance of drug absorption & disposition in product formulation & development ?
2. Enumerate the factors involved in assessment of Bioavailability & importance of bioavailability of drug in drug distribution ?
3. Derive an equation for calculation of total body clearance & Apparent volume of distributino & Absorption after IV bolus administration.
4. a) Mention causes for non-linearity ?

   b) Describe Michaeles - Menten Kinetics & derive an equation to find Km & Vmax ?
5. Define controlled release system. Write advantages & disadvantages of controlled release dosage forms and mention criteria for selection of drug candidates for controlled release dosage forms.
6. Enlight about design, fabrication, evaluation & applications of parenteral controlled drug delivery systems ?

SECTION - B

Answer any TEN Questions. **10x3 = 30 M**

7. Define Biopharmaceutics ? Write impact of route of drug administration on drug absorption ?
8. Describe the mechanism of dissolution ?
9. Write a note Entero hepatic cycling ?

P.T.O.

10. Classify compartmental models ? Write application of compartment modelling.
11. Write about non renal excretion.
12. Define AUC & draw Area under curve for drug after oral administration ?
13. Discuss about velocity maximum & its significance ?
14. Define non linearity ? When do you observe this non linearity ?
15. What are site specific systems & give examples.
16. Write a note on biological factors influencing design of sustained release dosage forms ?
17. What are Transdermal drug delivery systems & permeability of skin.
18. Write objectives of micro encapsulation.

Total No. of Questions : 18] B.PH 701

[Total No.of Pages : 02

IV/IV B. PHARMACY (SUPPLY) DEGREE EXAMINATIONS, FEBRUARY - 2022

Seventh Semester

PHARMACEUTICS - III (BIOPHARMACEUTICS, PHARMACOKINETICS AND NEW DRUG DELIVERY SYSTEMS)

Time : **Three Hours** Maximum : **70** Marks

SECTION - A

Answer any FOUR Questions. **4x10 = 40 M**

1. Explain the mechanism of drug absorption and write the process of drug dissolution and mention the dissolution specifications for different types of tablets.
2. Write about the mechanism of renal excretion and renal clearance.
3. Mention one compartment open model IV Bolus administration and write its pharmacokinetic parameters.
4. Derive Michaeles-menten equation.
5. Explain in detail about design, fabrication, and evaluation of transdermal drug delivery system.
6. Explain one compartment open model extravascular administration and write its pharmacokinetic parameters.

SECTION - B

Answer any TEN Questions. **10x3 = 30 M**

7. Write about Noyes whitney equation.
8. Explain Danckwert's model of drug dissolution.
9. Write about phase II reactions.
10. Explain how to estimate K_m and V_{max}.
11. Write the advantages and disadvantages of sustained release dosage forms.

[P.T.O.]

Total No. of Questions :18]

B.PH 701

[Total No. of Pages : 02

IV/IV B.PHARMACY (Supply) DEGREE EXAMINATIONS, APRIL-2019

7th Semester

B.PHARMACY

PHARMACEUTICS-III

(Biopharmaceutics, Pharmacokinetics & New Drug Delivery Systems)

Time: Three Hours **Maximum marks:70**

SECTION-A

Answer any FOUR Questions **4X10=40M**

1. Enumerate the drug transport mechanisms.
2. What are the causes for non-linear kinetics and give two examples. Discuss the significance of Michaeles-Menten equation.
3. Explain phase II biotransformation reactions citing suitable reactions.
4. What are microcapsules and explain the process of spry drying and spray congealing methods. Mention the salient advantages of microcapsules.
5. Write short notes on the following
   a) Parenteral long acting products
   b) Renal clearance
6. What are liposomes? Explain the methods of preparation of liposomes.

SECTION-B

Answer any TEN Questions **10X3=30M**

7. Write about the determination of area under the curve.
8. What are the implications of enterohepatic recycling?
9. Write about the effect of food on drug absorption.
10. What are niosomes and mention their advantages.
11. Write about the significance of biological membrane in drug absorption.
12. What types of drugs are suitable for controlled drug delivery?
13. What are the uses of transdermal drug delivery systems?

P.T.O

14. Define dosage regimen and mention its significance.

15. Mention the advantages of resealed erythrocytes over other novel drug delivery systems.

16. What are the advantages and disadvantages of protein binding?

17. Define volume of distribution, first pass effect, biological half life and absolute bioavailability.

18. Mention the significance of loading and maintenance doses in sustained drug delivery.

Total No. of Questions :18]

B.PH 701

[Total No. of Pages : 02

IV/IV B.PHARMACY (Regular) DEGREE EXAMINATIONS, OCT-2018

7th Semester

B.PHARMACY

PHARMACEUTICS-III

(BIOPHARMACEUTICS, PHARMACOKINETICS & NEW DRUG DELIVERY SYSTEMS)

Time: Three Hours **Maximum marks:70**

SECTION-A

Answer any FOUR Questions **4X10=40M**

1. Explain the role of biological membrane in drug absorption. How the conditions of solubility and pH will influence the drug absorption?
2. Define bioavailability and explain methods for its determination.
3. What is compartment? Mention the advantages of compartment modeling and differentiate between one and two compartment models.
4. What are the causes for drugs following non-linear kinetics? Explain the method of double reciprocal plot. What are its drawbacks?
5. Mention the advantages and disadvantages of controlled drug delivery systems and write about the characteristics of drugs suitable for these systems giving suitable examples.
6. Write notes on the following
   a) Resealed erythrocytes
   b) Niosomes

SECTION-B

Answer any TEN Questions **10X3=30M**

7. What is first pass effect and name two drugs undergoing first pass effect.
8. Mention the salient differences between active and passive transport mechanisms with suitable examples.
9. Write the problems of protein binding.
10. Name the methods for determination of AUC and write the principle of trapezoidal rule.
11. Define volume of distribution and metion its significance.

P.T.O

12. Name the organs through which drugs are excreted giving one example each.
13. How the non-linearity is detected?
14. Define renal clearance and mention its significance.
15. Mention the advantages of implants.
16. Write the principle of coacervation-phase separation.
17. What are the specific advantages of transdermal drug delivery systems?
18. Write the qualities of drugs suitable for liposomes.

Total No. of Questions :18]

B.Ph 701

[Total No. of Pages : 01

IV/IV B.PHARMACY DEGREE EXAMINATIONS, NOVEMBER-2016

(7th Semester)

PHARMACEUTICS-III

(Biopharmaceutics, Pharmacokinetics and New Drug Delivery Systems)

Time: Three Hours

Maximum marks:70

SECTION-A

Answer any FOUR questions. (4 x 10=40 M)

1. Enumerate the physico-chemical factors influencing the drug absorption.
2. Write about the factors influencing the bioavailability.
3. Write about one compartment model and its application in calculation of pharmacokinetics.
4. Write the principle in the design of sustained release formulations. Explain their preparation.
5. Mention the causes for non-linearity and how it is detected. Explain Michaeles-Menten equation.
6. Give the classification of transdermal drug delivery systems. Explain the preparation of any one of the systems.

SECTION-B

Answer any TEN questions. (10 x 3=30 M)

7. Write about carrier mediated transport.
8. Write about the influence of pK_a in drug absorption.
9. Mention the limitations of liposomes.
10. Write about the applications of niosomes.
11. Write the significance of Fick's first law of diffusion.
12. Mention the significance of entero hepatic recycling.
13. Write the significance of phase II reactions.
14. What are the qualities of drugs suitable for controlled drug delivery?
15. Name the methods of microencapsulation.
16. Give two examples of drugs following non-linear kinetics.
17. Define total body clearance and mention its significance.
18. Define thrapeutic range and duration of action.