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M. PHARM.

(SEM II) THEORY EXAMINATION 2017-18

BIOPHARMACEUTICS AND PHARMACOKINETICS

Time: 3 Hours *Total Marks: 100*

Note: 1. Attempt all Sections.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a. Define the term pharmacokinetic model?

b. State and explain fick's law of diffusion.

c. What do you understand by the term clearance?

d. What is CYP 450?

e. What is the clinical importance of elimination rate constant?

f. What is blood brain barrier?

g. What are experimental designs?

h. Why bioavailabilty of oral drug is lower than IV administration.

i. What is the purpose of semilog graph paper?

j. Define Therapeutic drug administration.

SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30

a. Discuss the applications of biophamaceutics and pharmacokinetics in clinical practice with suitable examples?

b. Discuss physic-chemical and dosage form factors affecting oral drug absorption.

c. Describe the procedure to determine the drug pharmacokinetic parameters from the urinary excretion rate data.

d. Write a note on methods to assess Bioavailability.

e. Discuss passive diffusion in detail.

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10

(a) Write a detailed note on drug protein binding of drugs and explain how plasma protein binding of drugs affect biodistribution in the human body.

(b) Write a detailed note on physiological barrier to drug absorption.

4. Attempt any *one* part of the following: 10 x 1 = 10

(a) Discuss multi-compartment models with the help of schematic representation and relevant mathematical equations.

(b) Discuss the kinetics of plasma protein drug binding.

5. Attempt any *one* part of the following: 10 x 1 = 10

(a) Write a detailed note on optimization of drug therapy.

(b) Write a detailed note on dosage adjustment in liver patient.

6. Attempt any *one* part of the following: 10 x 1 = 10

(a) Discuss different type of drug clearance.

(b) Describe parallel design in the clinical trials

7. Attempt any *one* part of the following: 10 x 1 = 10

(a) What is the significance of pharmacokinetics drug interaction in combination therapy?

(b) Discuss dosage adjustment in hepatic cirrohsis

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