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Roll No

MPY-201(PCS)

M. Pharmacy II Semester Examination, June 2020

Biopharmaceutics and Pharmacokinetics

(Adv. Pharmaceutics-I)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. Derive mathematical equations used to calculate Pharmacokinetic parameters following I.V. bolus administration, assuming the drug follows one compartment open model.
2. a) Define non-linear Pharmacokinetics. Discuss the reasons for non-linearity.
b) Write a note on chronopharmacokinetics.
3. a) Discuss the methods used for the assessment of bioavailability.
b) Discuss the study design or protocol for the bioavailability assessment.
4. a) Discuss the physiologic pharmacokinetic models.
b) Give the limitations of physiologic pharmacokinetic models.
5. a) Explain therapeutic index. Discuss the various factors affecting plasma concentration.
b) Explain dosage regimen, loading and maintenance dose with reference to one compartment model.
6. a) Discussion interrelationship between Pharmacokinetic parameters, Physiological variables and Inhibition of metabolism. Discuss sigma-minus method.
b) What is Sigma minus methods in compartment modeling? Explain.
7. What are the two methods for calculating K_e from urinary excretion data? Compare their merits and demerits?
8. Write short notes on:
 - a) Mean Absorption Time (MAT) and Mean Dissolution Time (MDT).
 - b) *in vitro* - *in vivo* correlation
 - c) Renal and hepatic clearance
