**QP Code: 624006** **Reg. No…….**

# Sixth Semester B. Pharm Degree Regular Examinations May 2021
# Biopharmaceutics and Pharmacokinetics

**Time: 3 Hours** **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Describe Biotransformation. Explain the phase II biotransformation reactions.
2. Explain the kinetics of plasma protein binding of drugs and write briefly on its clinical significance.

**Short Notes** **(7x5=35)**

3. Describe the pharmacokinetics of intravenous multiple dosage regime –one compartment open model.
4. Define the term clearance and explain the concept.
5. Explain the role of polymorphism and pseudo-polymorphism on drug availability.
6. Explain how elimination rate constant $K_E$ and apparent volume of distribution (Vd) can be determined from a first order plot of plasma drug concentration with time for a drug following one compartment open model after extravascular administration.
7. Explain the causes of non-linearityof pharmacokinetics.
8. Explain the single dose Latin square cross over design for bioequivalence studies. What are the limitations of this method.
9. Multi compartment model.

**Answer Briefly** **(10x2=20)**

10. Define elimination half-life.
11. Explain the significance of loading dose with I.V infusion
12. What do you understand by a ‘Two compartment model’.
13. Explain the significance of $V_d$ (apparent volume of distribution) of different drug.
14. Explain in brief sigma minus method.
15. Define AUC and write the methods used in the determination of AUC.
16. Differentiate between compartment modelling and physiological modeling
17. Michaelis – mention method of estimating parameters.
18. Absolute and relative bioavailability.
19. Write in brief non-renal routes of drug excretion

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