Q.P. Code: 405326   **Reg. no.: …………………**

Fourth Year Pharm D Degree Supplementary Examinations
December 2018

Biopharmaceutics & Pharmacokinetics

Time: 3 Hours   **Total Marks: 70**

- Answer all questions
- Draw diagrams wherever necessary

Essays: **(3x10=30)**

1. Explain the factors affecting renal clearance.

2. Explain method of residuals to determine the rate constant.

3. What is the significance of the plasma level-time curve. How does the curve relate to the pharmacologic activity of a drug.

Short notes: **(8x5=40)**

4. If the amount of drug in the body declines from 100% of the dose (I V Bolus injection) to 25% of the dose in 8 hours, what is the elimination half-life for this drug. (Assume first order kinetics).

5. What are the advantages /disadvantages for giving a drug by a constant I V injection, intermittent IV infusion, or multiple I V Bolus injections. What drugs would most likely to be given by each route of administration. Why.

6. The factors causing non-linearity.

7. Explain the model-dependent and model independent nature of MRT

8. Explain the significance and factors affecting protein drug binding.

9. An antibiotic is to be given by IV infusion. How many milliliters per minute should a sterile drug solution containing 25 mg/ml be given to a 75 kg adult male patient to achieve an infusion rate of 1 mg/kg per hour.

10. Explain the significance of volume of distribution in case of two compartment model.

11. Explain non renal route of drug excretion

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