

Rajiv Gandhi University of Health Sciences, Karnataka

IV Year B.Pharm Degree Examination – Dec - 2017

Time: Three Hours**Max. Marks: 80 Marks**

PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING (Revised Scheme - 2) **Q.P. CODE: 1972**

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)**2 x 10 = 20 Marks**

1. Explain one compartment model of a drug following IV Bolus with schematic diagram.
2. What is TDM? Explain in detail the organization and effectiveness of TDM services.
3. Deduce equations to calculate pharmacokinetic parameters for drug following bi-exponential decline curve.

SHORT ESSAYS (Answer any Eight)**8 x 5 = 40 Marks**

4. Discuss the important factors influencing drug-protein binding.
5. Explain the importance and concept of dosing in renal impaired persons.
6. Explain the TDM of Methotrexate.
7. Explain the importance of immunoassays in TDM.
8. What is a model? Explain one compartmental open model of IV infusion.
9. Discuss the importance of volume of distribution in calculating pharmacokinetic parameters.
10. What is Accumulation index and write its clinical significance.
11. What is concept of clearance? Add a note on total clearance.
12. Explain various factors affecting on drug absorption.
13. Define Rate and Order. Explain first-order and zero-order rates.

SHORT ANSWERS**10 x 2 = 20 Marks**

14. Write the schematic representation of three compartmental model with i.v administration.
15. Biological half life and its importance.
16. What is AUC? Write the formula to calculate AUC.
17. Mammillary and Catenary models.
18. If the amount of the drug in the body declines from 100% of the i.v bolus injection to 25% of the dose in 16hrs. Calculate the elimination half of the drug assuming first order disposition.
19. Patient compliance.
20. Loading and maintenances dose.
21. What is extraction ratio? Give its clinical significance.
22. Disadvantages of physiological model.
23. In compartmental model, what does the term "Open" mean.