



**[Time: 3 Hours]**

**[Max. Marks: 75]**

**Clinical Pharmacokinetics and Therapeutic Drug Monitoring**

**Q.P. CODE: 5183**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

**LONG ESSAY (Answer any Three)**

**3 X 10 = 30 Marks**

1. Define pharmacokinetic drug interactions. Explain the impact of drug interaction on induction and inhibition of drug metabolism with examples.
2. Explain compartment and non-compartment modeling.
3. Discuss the need and methods of dosage adjustments in pediatric population.
4. What is analysis of population pharmacokinetic data? Explain the different methods.

**SHORT ESSAY (Answer any Nine)**

**9 X 5 = 45 Marks**

5. Define TDM and explain the indications for TDM of drugs.
6. Write short notes on PK-PD correlation in Drug therapy.
7. How do you calculate loading and maintenance dose in multiple dosing regimen.
8. Explain the methods of determining bioavailability.
9. Define and explain inter-individual and intra-individual variability.
10. Explain genetic polymorphism of CYP450 enzymes and its effects on drug metabolism.
11. Dosage adjustment is necessary in pregnancy and lactation. Why?
12. How do age and disease conditions influence drug dosage regimen.
13. Explain the effect of renal disease on pharmacokinetics of drugs.
14. Discuss the methods of determining creatinine clearance.

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