Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) / V Year Pharm-D Degree Examination – JUNE-2019

Time: Three Hours **Max. Marks: 70 Marks**

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876 / 2892

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. a) Describe the genetic polymorphism in CYP2D6 and 2C9 isozymes.
   b) Explain the effect of inhibition of biliary excretion of drugs and list out the drug interactions which influence the biliary excretion.
2. a) Explain in detail the determination of dose and dosing interval of a drug.
   b) Describe Bayesian theory.
3. Explain various factors considered in the design of dosage regimen for geriatric and obese patients.

SHORT ESSAYS (Answer any six) **6 x 5 = 30 Marks**

4. Define TDM. Discuss the indications for TDM of drugs.
5. Discuss drug interactions related to protein binding and metabolism.
6. Explain the various pharmacokinetic changes observed in the renally impaired patients.
7. Explain the difference between traditional pharmacokinetics and population pharmacokinetics.
8. Explain the role of clinical pharmacist in TDM.
9. Define creatinine clearance. Enumerate various formulae used for the measurement of creatinine clearance.
10. Explain different methods of conversion of intravenous to per oral dosing.
11. Describe the role of genetic polymorphism in drug targets.

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

12. Define apparent volume of distribution and give the mathematical equation to calculate this parameter.
13. Enlist various types of samples used for analysis in TDM
14. List the markers used in the measurement of GFR.
15. List the methods used for the population pharmacokinetic model evaluation
16. Describe the difference between first and zero order elimination and how each order appears graphically.
17. Define narrow therapeutic index with suitable examples.
18. Give two advantages and disadvantages of inulin as a marker for GFR measurement.
19. What is difference between observed and predicted concentrations?
20. What do you understand by drug tolerance and physical dependency?
21. Give two examples of genetic polymorphism of cyt P-450 isozymes on drug metabolism.

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