Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D / II Year Pharm D Post Baccalaureate Degree Examination – 09-Nov-2023

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

CLINICAL PHARMACOKINETICS AND PHARMACOTHERAPEUTIC DRUG MONITORING (RS & RS2)

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. What are the causes of renal failure? Discuss the assumptions made and the methods of adjusting dosage regimen in a uremic patient.

Explain schematically multiple dose regimen (IV bolus). What are the factors to be considered in fixing a dosage regimen for (a) an obese person (b) a geriatric patient?

What is genetic polymorphism of the cytochrome 450? Discuss the impact of polymorphism on drug metabolism using suitable examples.

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

Write the factors considered in conversion of IV to oral dosing.

Discuss the TDM of (a) Digoxin (b) Cyclosporine

Discuss the clinical applications of Nomograms

Explain in brief about extracorporeal removal of drugs.

Explain how the dose and dosing interval of a drug is determined.

Describe population pharmacokinetic analysis using NONMEM method.

Explain drug interactions related to a) Protein binding b) Metabolism with suitable examples.

A patient with a probability of 0.6 of having a disease was asked to take a clinical laboratory test. A positive test indicates a probability identifying the disease in subjects without the disease. Calculate the probability of the patient having the disease using the Bayesian method?

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

Define clinical pharmacokinetics.

How are the following parameters related-volume of distribution, elimination rate constant and clearance?

What are the markers for assessing hepatic impairement?

Write a short note on poor, intermediate and extensive metabolizers.

16. What is the principle of superposition?
17. What is random and residual error?
18. Explain the Bayesian equation.
19. What is the Cockcroft-Gault equation?
20. Give examples of genetic polymorphism in drug transporters.
21. What is extraction ratio?

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D / II Year Pharm D Post Baccalaureate Degree Examination – 24-Nov-2022

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

CLINICAL PHARMACOKINETICS AND PHARMACOTHERAPEUTIC DRUG MONITORING (RS & RS2)

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. What are nomograms? Explain their applications in pharmacokinetic studies with examples. Give their advantages and disadvantages
2. a) Explain in detail the determination of dose and dosing interval of a drug
   b) Describe the genetic polymorphism in CYP2D6 and 2C9 isoenzymes
3. What are the observed pharmacokinetic changes in patients with renal impairment? Discuss dosage adjustment in patients based on creatinine clearance

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

4. Write the effects of inhibition and induction of enzymes on drug metabolism
5. Discuss Bayesian theory
6. Explain the effect of hepatic diseases on pharmacokinetics of drugs
7. Explain extracorporeal removal of drugs with their advantages and disadvantages
8. Explain the TDM of cyclosporine
9. Explain the principle of drug dosing in elderly
10. Write a note on pharmacokinetic and pharmacodynamic correlation
11. Explain the difference between traditional pharmacokinetics and population pharmacokinetics

SHORT ANSWERS — 10 x 2 = 20 Marks

12. Explain why TDM is necessary for methotrexate
13. What do you understand by superposition?
14. Describe genetic polymorphism effect on drug transport
15. What are the methods for converting from IV to oral dosing?
16. Define hepatic clearance
17. Explain the methods for calculating creatinine clearance
18. Give the importance of clinical pharmacokinetics
19. What are the markers used for measurement of glomerlular filtration rate?
20. Write the methods for the calculation of paediatric drug dose
21. Write in brief about the factors affecting dialyzability of drugs

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) / V Year Pharm-D

Degree Examination – 02-Jul-2022

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

CLINICAL PHARMACOKINETICS AND THERAPEUTIC DRUG MONITORING (RS & RS2)

Q.P. CODE: 2876 / 2892

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

.ONG ESSAYS (Answer any two) **2 x 10 = 20 Marks**

1. What is TDM? What are the criteria for carrying out TDM? Write briefly about the TDM protocol.
2. Discuss the genetic polymorphism of (a) Drug transporters (b) Metabolic enzymes.
3. Discuss the importance of population pharmacokinetics. Write the various methods used in population kinetics.

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

4. Explain biliary excretion of drugs with suitable examples.
5. Explain the Bayesian theory and its application in clinical pharmacokinetics.
6. Write briefly about drug dosing in pediatric patients.
7. Write the method of dosage regimen adjustment in patient with renal damage based on elimination rate constant.
8. What is Pharmacokinetics-Pharmacodynamics correlation? Write briefly about the E_{max} model.
9. Explain TDM of carbamazepine and gentamycin.
10. What are pharmacokinetic interactions? Explain the drug interactions affecting Bioavailability of drugs with suitable example.
11. A drug has a volume of distribution of 30 liters and its elimination rate constant is 0.10 hr. What will be the maintenance dose, the loading dose, the losing interval for this drug so that the plasma concentration is between 25 mg/liter (MTC) and 10 mg/liter (MEC).

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

- What is drug accumulation? Derive the formula for the accumulation factor.
- Explain the reasons for conversion of IV to oral dosing.
- How does liver damage affect oral administration of drugs with high extraction ratio?
- Write the use of nomograms in adjusting dosage regimens in patients with kidney damage.
- Give the reasons for variability in drug response.
- What are the markers used to assess hepatic damage?
- Define- a) Volume of distribution b) Clearance. How are they related?
- Define- a) Residual error b) Random error.
- Explain peritoneal dialysis.
- What are the important factors to be considered in designing a dosage regimen for obese patients?

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) / V Year Pharm-D

Degree Examination – 17-Nov-2021

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

CLINICAL PHARMACOKINETICS AND THERAPEUTIC DRUG MONITORING (RS & RS2)

Q.P. CODE: 2876 / 2892

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

ONG ESSAYS (Answer any two) **2 x 10 = 20 Marks**

. Explain the various factors considered in design of dosage regimen for geriatric and obese patients.

. Explain the TDM of digoxin in detail.

. List out the various factors of hepatic impairement. Discuss in detail the PK considerations in hepatic disease patients.

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

. Describe the two-stage approach in POP PK analysis.

. Describe the role of genetic polymorphism in CYP2D6 and 2C9 isoenzymes.

Explain the Guisti-Hayton method for dosage adjustment in uremic patients.

Explain the effect of inhibition of biliary excretion of drugs.

Explain in detail the determination of dose and dosing interval of a drug.

How do you adjust dosage regimen in renal failure patient based on total body clearance?

. Explain the principle of superposition and how it applies to multiple drug dosing.

. Explain the Sigmoidal E_{max} model in PK/PD consideration.

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

. Write the difference between first and zero order elimination and give the graphs.

. Why is TDM necessary for methotrexate?

. How do you adjust the dose in obese patients?

. Write briefly about the induction of drug metabolism.

. Explain the reasons for monitoring drug levels.

. what are the factors considered in conversion of IV to oral dosing

. What are the importance of loading dose in finding drug dosing intervals?

. Define Pharmacogenetics.

. What is Random error?

. With suitable examples, enumerate drug dosing in genetic dependent fast acetylators.

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) / V Year Pharm-D Degree Examination – 23-Mar-2021

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

CLINICAL PHARMACOKINETICS AND 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. What are the causes of hepatic impairment? Discuss in detail the dosing considerations for patients with liver failure.
2. What are the indications for TDM? Discuss the various steps involved in TDM.
3. Discuss the Bayesian theory and its application in clinical pharmacokinetics. Explain dosing with feedback.

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

4. What is drug accumulation? Discuss average plasma concentration after multiple IV dosing and its use in dose determination.
5. Discuss the TDM of (a) Phenytoin (b) Theophylline
6. Write a short note on Nomograms.
7. Describe dosage adjustment in patients with renal failure based on the elimination half life of a drug.
8. Give an account on population kinetics and traditional kinetics.
9. Write a short note on genetic polymorphism of drug targets.
10. What are the factors to be considered while designing a dosage regimen for geriatric patients?
11. What are the formulae used for calculation creatinine clearance? Using the method of Cockcroft and Gault, calculate the creatinine clearance for a 38-year old woman weighing 62kg, whose serum creatinine is 1.8mg/dL

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

12. Explain Fast acetylators with suitable examples.
13. Write in brief about the importance of average steady state concentration.
14. Define: elimination rate constant, intrinsic clearance.
15. Enumerate the software used in population kinetics analysis.
16. Write briefly on the effect of enzyme induction and enzyme inhibition on drug interactions.
17. In a multi-dose intravenous administration how does changing the dose affect-maximum plasma concentration, minimum plasma concentration and time to steady state.
18. What are single nucleotide polymorphisms?
19. What are the markers for measuring renal function?
20. Write factors affecting dialyzability of drugs.
21. What are the methods for converting from IV to oral dosing?

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) / V Year Pharm-D Degree Examination – 21-Jan-2020

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

CLINICAL PHARMACOKINETICS AND 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. What are nomograms? Explain their applications in Pharmacokinetic studies with examples. Give their advantages and disadvantages.
2. Enumerate the various causes for renal impairment. Discuss in detail the PK considerations in the renal failure patients.
3. Explain the necessity and process of TDM in patients receiving lithium.

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

4. Explain the sampling design used in POPPK study.
5. Explain the various pharmacokinetic drug interactions with suitable examples.
6. Explain the effect of age and body weight in individualization of drug dosage regimens.
7. Describe the Wagner method for the dose adjustment in uremic patients.
8. Discuss the factors to be considered in designing the dosage regimen.
9. Describe the role of genetic polymorphism in drug targets.
10. Describe hemodialysis with its advantages and disadvantages.
11. Explain with suitable example how elimination half-life of a drug influences the duration of activity.

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

- Define loading dose and maintenance dose. Give equations to calculate the same.
- List the markers used in the measurement of GFR.
- Differentiate between inter-individual variation and within subject variation.
- What is clearance? Give the relationship between clearance and AUC.
- Give any two examples for clinically important genetic polymorphism of drug transporters.
- Add a note on BEER's criteria for drugs used in geriatric patients.
- Give the Jellife's equation for the measurement of creatinine clearance.
- Give the assumptions of one compartment modeling
- List various software's used for conducting POPPK analysis.
- Give MDRD equation for the measurement of creatinine clearance.

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ajiv Gandhi University of Health Sciences, Karnataka

V Year Pharma-D Post Baccalaureate Degree Examination – Mar 2013

: Three Hours

Max. Marks: 70 Mark:

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876

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

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

Define TDM. Discuss the indications for TDM. Explain the role of clinical pharmacokinetist in TDM of drugs

Explain with suitable examples how the dose and elimination half life of a drug influence the duration of activity

Define nomograms. Explain how they are useful in pharmacokinetic studies. What are their advantages & disadvantages

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

Explain the principle of drug dosing in elderly

Why phenytoin is a drug for TDM. Explain

Explain the role of genetic polymorphism in drug metabolism. Give suitable examples

Explain the NONMEM method of analysis of population pharmacokinetic data

Explain briefly Hemodialysis

Define pharmacokinetic drug interactions with examples. Add a note on effect of enzyme induction on drug interaction

Explain the different methods of determining glomerular filtration rate

Define and explain Bayesian theory

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

How do you adjust dose of a drug in renal impairment with constant dosing interval

Give examples of drug interactions affecting bioavailability of drugs

Write the principle in converting IV dose to oral dose

Child dose is not the same as adult dose. Why?

Give examples of hepatic markers and their importance

Explain a typical plot of pharmacologic response versus drug dose

Enumerate four causes of renal dysfunction

What is meant by dosing with feedback

Write the factors influencing individualisation of drug dosage regimen

Calculate creatinine clearance in an 85 year old female weighing 190 lbs, with serum creatinine concentration of 1.5 mg/100ml

Rajiv Gandhi University of Health Sciences, Karnataka

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

me: Three Hours

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Max. Marks: 70 Marks

Q.P. CODE: 2876 / 2892

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

NG ESSAYS (Answer any two) **2 x 10 = 20 Marks**

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.

a) Explain in detail the determination of dose and dosing interval of a drug.

b) Describe Bayesian theory.

Explain various factors considered in the design of dosage regimen for geriatric and obese patients.

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

Define TDM. Discuss the indications for TDM of drugs.

Discuss drug interactions related to protein binding and metabolism.

Explain the various pharmacokinetic changes observed in the renally impaired patients.

Explain the difference between traditional pharmacokinetics and population pharmacokinetics.

Explain the role of clinical pharmacist in TDM.

Define creatinine clearance. Enumerate various formulae used for the measurement of creatinine clearance.

Explain different methods of conversion of intravenous to per oral dosing.

Describe the role of genetic polymorphism in drug targets.

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

Define apparent volume of distribution and give the mathematical equation to calculate this parameter.

Enlist various types of samples used for analysis in TDM

List the markers used in the measurement of GFR.

List the methods used for the population pharmacokinetic model evaluation

Describe the difference between first and zero order elimination and how each order appears graphically.

Define narrow therapeutic index with suitable examples.

Give two advantages and disadvantages of inulin as a marker for GFR measurement.

What is difference between observed and predicted concentrations?

What do you understand by drug tolerance and physical dependency?

Give two examples of genetic polymorphism of cyt P-450 isozymes on drug metabolism.

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) Degree Examination – NOV 2016

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

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING (RS)

Q.P. CODE: 2876

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 the pharmacokinetics of drugs in obese patients and describe the dosage adjustment in these patients with necessary examples.
2. Define pharmacokinetic drug interactions. Explain the pharmacokinetic interactions of drugs with examples.
3. List out the indications, necessity and process involved in TDM process. Write a note on TDM of Digoxin

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

4. Define the role of nomograms and tabulations in designing dosage regimen?
5. Define polymorphism? Describe the genetic polymorphism in CYP 2D6 and CYP 2C9 enzymes
6. Discuss about the dosage adjustment in patients with liver failure.
7. Write a note on biliary excretion of drugs.
8. Describe the TDM of carbamazepine
9. Write a note on role of pharmacokineticist in TDM processes
10. Calculate the creatinine clearance for 30 year old female patient with serum creatinine value of 0.8mg/dl. The patient if 5ft 1 inch height and weighs 69kg
11. Mention the pharmacokinetic differences between geriatric and pediatric patients

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

Write the significance of pharmacokinetic and pharmacodynamic correlation in drug therapy

What is clinical pharmacokinetics and explain its importance

Define hemodialysis. Give its significance.

Define allele an variant allele

Illustrate four pharmacokinetic interactions affecting the metabolism of drugs

Enumerate the mechanism of drug interactions between clopidogrel and aspirin

What is creatinine clearance? Give the formula with normal value.

Give the indications which necessitate TDM for lithium.

Mention hepatic biomarkers and write its normal values.

Define GFR. Write the formula to calculate GFR with normal value.

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Rajiv Gandhi University of Health Sciences, Karnataka

V Year Pharm-D (II Year Pharm D Post Baccalaureate) Degree Examination – NOV 2016

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

PHARMACOEPIDEMIOLOGY AND PHARMACOECONOMICS (RS)

Q.P. CODE: 2875

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 few pharmacoepidemiological studies involving drug induced birth defects.
2. Explain case control and cohort studies with suitable examples and its advantages and disadvantages.
3. Define pharmacoeconomics. Explain history and scope of pharmacoeconomics.

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

4. Describe spontaneous reporting system with its strengths and weakness.
5. Explain the various measurements of outcomes in a pharmacoepidemiological studies.
6. Explain the types of errors that can occur in a pharmacoepidemiological studies.
7. What is Markov's model? Explain the features.
8. Explain the concept of attributable risk and relative risk.
9. Define cost effectiveness analysis, its advantages and disadvantages.
10. Explain the applications of pharmacoeconomics.
11. What is cost benefit analysis? Steps in conducting cost benefit analysis.

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

1. Define direct medical cost.
2. ECHO Model.
3. Cost of illness.
4. What is the need of post marketing surveillance?
5. List out computerized data base used for pharmacoepidemiological research.
6. Define monitory units?
7. Case reports and case series.
8. Define sensitivity analysis
9. What is Willingness to pay?
10. Define ICER & ACER.

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jiv Gandhi University of Health Sciences, Karnataka

ar Pharma-D Post Baccalaureate Degree Examination – Feb / Mar 2012

Three Hours

Max. Marks: 70 Marks

LINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876

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

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

Explain Bayesian theory and its applications with suitable examples

Define TDM, enumerate the indications for TDM. Explain the TDM of ciclosporin

Discuss the following : - (A) Conversion of IV dose to oral dose (B) Protocol for TDM study of an anticonvulsant drug

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

Explain drug interaction with respect to enzyme induction & inhibition

Describe genetic polymorphism in CYP2D6 and 2C9 isozymes

Enumerate and explain the variable factors in individualizing drug dosage regimen

Define and discuss the applications of nomograms

Explain the effect of hepatic diseases on pharmacokinetics of drugs

Explain the methods of determining creatinine clearance

Discuss the relationship between elimination half life and duration of activity of drugs

Extracorporeal removal of drug, explain

10 x 2 = 20 Marks

T ANSWERS

Explain the importance of inhibition of biliary excretion

What is intrinsic clearance of drugs

Write the significance of p – glycoprotein

Write briefly on different methods of designing dosage regimens

Enumerate the factors affecting dialyzability of drugs

Write the significance of pharmacokinetic-pharmacodynamic correlation

Define pharmacogenetics

Give four examples of drug interactions affecting absorption process

Give any two methods of calculating child drug dose

List different liver enzymes and their significance

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jiv Gandhi University of Health Sciences, Karnataka

n Year Pharma- D Post Baccalaureate Degree Examination – Feb/March 2011

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

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876

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

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

Explain in detail Hemodialysis

Explain the various methods for estimating dosage regimens in uremic patients

What is population pharmacokinetic data? Explain in detail the methods adopted in analysis of such data

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

Explain the role of liver enzymes in drug interactions with examples

Explain the principle and method of dosage adjustment in geriatrics

Explain the role of P-glylcoprotein in bioavailability of drugs

Define and explain Bayesian theory.

Explain the TDM of Cyclosporin.

Define and explain the significance of Pharmacokinetic drug interactions with examples.

Explain the major considerations in TDM studies

Explain how Renal and hepatic diseases affect protein binding of drugs. How are these changes accounted for dose adjustment?

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

What is inulin clearance? Explain

Explain the application of Nanograms

Enumerate the different methods of designing dosage regimens

Write the equation defining the relationship between dose and duration of activity for single iv bolus injection

Define genetic polymorphism.

Enumerate the factors affecting dailyzability of drugs

Explain the various liver function tests and their significance

What are the assumptions made when adjusting the dosage regimen based on creatinine clearance during renal failure

Write the significance of Pharmacokinetic-Pharmacodynamic correlation.

Calculate the creatinine clearance for a child (8 years, body length 122cm) whose serum creatinine value is 0.9 mg/dl.

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iv Gandhi University of Health Sciences, Karnataka

ir Pharma-D Post Baccalaureate Degree Examination – Aug / Sep 2011

hree Hours

Max. Marks: 70 Marks

LINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876

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

SSAYS (Answer any two) **2 x 10 = 20 Marks**

efine pharmacokinetic drug interactions; with suitable examples explain how such iteractions influence ADME of drugs

xplain in detail any two methods of determining population pharmacokinetic data

iscuss in detail methods for dose adjustment in renal failure. Add a note on harmacokinetic considerations during renal impairment

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

efine genetic polymorphism. Explain its role in drug metabolism with examples

xplain the principle of drug dosing in elderly

iscuss the TDM of digoixn

Vhat is extracorporeal removal of drugs. Explain the method of peritoneal dialysis

low do you determine creatinine clearance

iscuss the role of liver enzymes in drug interactions with examples

xplain pharmacokinetic – pharmacodynamic correlations in drug therapy

xplain the principle and significance in converting IV dose to oral dose

ANSWERS **10 x 2 = 20 Marks**

/rite the uses of nomograms in pharmacokinetics

xplain the significance of P – glycoprotein

/rite the indications of TDM

riefly explain drug dosing in obese patients

efine intrinsic clearance of drugs. What is its significance

ive any two methods of determining child dose

numerate the factors influencing dialyzability of drugs

xplain the relationship between elimination half life and duration of activity

ow do you determine dose for a drug

/hat are hepatic markers and their significance

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Rajiv Gandhi University of Health Sciences, Karnataka

Fifth Year Pharma- D Post Baccalaureate Degree Examination – August 2010

e: Three Hours

Max. Marks: 70 Marks

CLINICAL PHARMACOKINETICS & THERAPEUTIC DRUG MONITORING

Q.P. CODE: 2876

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

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

Define Therapeutic drug monitoring. What are the indications for TDM? Explain the TDM of Digoxin.

Explain the following

a) Pharmacokinetic considerations during renal impairment
b) Approaches for dose adjustment during renal disease

Define Pharmacokinetic drug interactions with examples. Add a note on effect of enzyme induction and inhibition on drug interactions with examples.

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

Explain the methods of determining creatinine clearance in adults.

Explain the role of genetic polymorphism on drug metabolism with examples

Write a note on the methods adopted in analysis of population Pharmacokinetic data.

Explain the principle and method of determining drug dose in obese patients

Explain briefly Hemodialysis

Discuss the effect of hepatic diseases on Pharmacokinetic of drugs

Enumerate and explain the variable factors in individualizing drug dosage regimen.

How does elimination half life influence the duration of activity of drugs. Explain with examples.

10 x 2 = 20 Marks

T ANSWERS

Define Pharmacogenetics

What are nomograms?

Give reasons for conversion from IV infusion to oral dosing of drugs

Graphically represent the relation of drug dose to Pharmacologic effect.

What is the significance of P-glycoprotein?

Give examples of Hepatic metabolic markers and their significance

Explain the intrinsic clearance of drugs

Write any two formulae used to calculate child dose of drugs

What is AUIC with regard to an antibiotic?

Write the factors that influence inhibition of biliary excretion.