

**FACULTY OF PHARMACY**

Pharm. D V - Year (6 YDC) (Main &amp; Backlog) Examination, December 2020

Subject: Clinical Research

Time: 2 Hours

Max. Marks: 70

**Part – A****Note: Answer any Six questions.****(6x5 = 30 Marks)**

- 1 Write briefly the methods of target identification and validation.
- 2 What is the role of ICMR in regulation of clinical trials?
- 3 Write the limitations and regulatory requirements for the conduct of preclinical studies.
- 4 What is NDA? Mention the data which is submitted with the application.
- 5 What is CDSCO? Write its functions.
- 6 Define the terms "Source data" and "Source documents".
- 7 What is IND "clinical hold" and "clinical hold response"?
- 8 Write briefly about Data entry in clinical Data management.
- 9 Write notes on patient Information sheet.
- 10 What is PSUR?

**Part – B****Note: Answer any four questions.****(4x 10 = 40 Marks)**

- 11 What is "Lead molecule"? Explain in detail the Lead identification and optimization process.
- 12 Explain various functions of IEC.
- 13 Elaborate the role and responsibilities of sponsor in clinical trials as per ICH GCP.
- 14 (a) What is CRF? Write notes on CRF design.  
(b) Write notes on discrepancy management in CDM.
- 15 Explain the regulatory environment for conduct of clinical trials in USA.
- 16 Write in detail various components of clinical trial "protocol". Add notes on protocol amendments.
- 17 Write in detail about Data storage and security in CDM.
- 18 (a) Explain NDA review process  
(b) Explain roles and responsibilities of CRC as per ICH GCP guidelines

**FACULTY OF PHARMACY****Pharm. D V - Year (6 YDC) (Main & Backlog) Examination, December 2020****Subject: Pharmacoepidemiology & Pharmacoeconomics****Time: 2 Hours****Max. Marks: 70****Part – A****Note: Answer any Six questions.****(6x5 = 30 Marks)**

- 1 Write about need of pharmacoepidemiology and evidence based medicine.
- 2 Define cumulative incidence and prevalence.
- 3 Write a note on attributable risk.
- 4 Write about cross sectional studies and cohort studies.
- 5 What is defined daily dose and prescribed daily dose.
- 6 Give the clinical importance of drug utilization review.
- 7 Write about the importance of meta-analysis.
- 8 Discuss the applications of pharmacoepidemiology in studies of vaccine safety.
- 9 Explain the various cost factors involved in pharmacoeconomic evaluation.
- 10 Write a note on applications of pharmacoeconomic studies.

**Part – B****Note: Answer any Four questions.****(4x 10 = 40 Marks)**

- 11 Define the term pharmacoepidemiology and explain its outcome measurement related to prevalence and incidence rate, medication adherence management.
- 12 Define case control study. Explain the design of case control study with suitable example. Write the advantages and disadvantages, and applications of case control study.
- 13 Explain the various designs used in pharmacoepidemiological studies.
- 14 How do you express the outcome of drug use in pharmacoepidemiologic studies? Discuss briefly on meta-analysis
- 15 Discuss about the pharmacoepidemiological data bases.
- 16 Briefly explain about the significance of hospital pharmacoepidemiology
- 17 Write the applications of pharmacoeconomics with respect to case based studies.
- 18 Define the term Pharmacoeconomics. Explain the need for pharmacoeconomics in Indian scenario. Discuss the types of pharmacoeconomic evaluations.

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**FACULTY OF PHARMACY**

**Pharm D (6 – YDC) V – Year (Instant) Examination, February 2020**

**Subject: Pharmacoepidemiology & Pharmacoeconomics**

**Time: 3 Hours**

**Max.Marks: 70**

**Note: Answer all questions from Part – A. Any Five questions from Part – B.**

**PART – A (10x2 = 20 Marks)**

- 1 Write the applications of pharmacoepidemiology.
- 2 Define incidence and incidence rate.
- 3 Define number of prescriptions.
- 4 What are defined daily doses and prescribed daily doses?
- 5 What is medication adherence measurement?
- 6 Write about time-risk relationship.
- 7 What do you mean by case-cohort studies?
- 8 What are Ad Hoc data sources?
- 9 What is vaccine safety?
- 10 What is cost-minimization method of pharmacoeconomics?

**PART – B (5 X 10 = 50 Marks)**

- 11 Elaborate on the evaluation and aim of pharmacoepidemiology with suitable example. [10]
- 12 a) Explain about outcome measure in pharmacoepidemiology. [5]  
b) Write about various types of risk in Pharmacoepidemiology. [5]
- 13 a) Explain the role of pharmacist in drug utilization review. [5]  
b) Write a note on WHO programme for ADR reporting. [5]
- 14 a) Write a note on prescription event monitoring. [5]  
b) Write a note on record linkage system. [5]
- 15 Write the merits and demerits of case control and meta-analysis studies. [10]
- 16 Elaborate various types of bias involved in pharmacoepidemiology. [10]
- 17 Explain the need of pharmacoeconomic evaluations in formulary management. [10]
- 18 Write the applications of pharmacoeconomics with respect to case based studies. [10]

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**FACULTY OF PHARMACY**

**Pharm D (3–YDC) II–Year (Instant) (Post Baccalaureate) Examination, February 2020**

**Subject: Pharmacoepidemiology & Pharmacoeconomics**

**Time: 3 Hours**

**Max.Marks: 70**

**Note: Answer all questions from Part – A. Any Five questions from Part – B.**

**PART – A (10x2 = 20 Marks)**

- 1 Write the applications of pharmacoepidemiology.
- 2 Define incidence and incidence rate.
- 3 Define number of prescriptions.
- 4 What are defined daily doses and prescribed daily doses?
- 5 What is medication adherence measurement?
- 6 Write about time-risk relationship.
- 7 What do you mean by case-cohort studies?
- 8 What are Ad Hoc data sources?
- 9 What is vaccine safety?
- 10 What is cost-minimization method of pharmacoeconomics?

**PART – B (5 X 10 = 50 Marks)**

- 11 Elaborate on the evaluation and aim of pharmacoepidemiology with suitable example. [10]
- 12 a) Explain about outcome measure in pharmacoepidemiology. [5]  
b) Write about various types of risk in Pharmacoepidemiology. [5]
- 13 a) Explain the role of pharmacist in drug utilization review. [5]  
b) Write a note on WHO programme for ADR reporting. [5]
- 14 a) Write a note on prescription event monitoring. [5]  
b) Write a note on record linkage system. [5]
- 15 Write the merits and demerits of case control and meta-analysis studies. [10]
- 16 Elaborate various types of bias involved in pharmacoepidemiology. [10]
- 17 Explain the need of pharmacoeconomic evaluations in formulary management. [10]
- 18 Write the applications of pharmacoeconomics with respect to case based studies. [10]

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**FACULTY OF PHARMACY**

Pharm D (6 – YDC) V – Year (Instant) Examination, February 2020

**Subject: Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring****Time: 3 Hours****Max.Marks: 70****Note: Answer all questions from Part – A. Any Five questions from Part – B.****PART – A (10x2 = 20 Marks)**

- 1 Write about determination of dose and dosing interval.
- 2 Write the TDM for phenytoin sodium.
- 3 Explain about inulin clearance.
- 4 Write a note on enzyme inhibition with examples.
- 5 Add a note on Biliary Excretion.
- 6 Give a brief account on dosage adjustment in uremic patients
- 7 Brief about pharmacogenetics and its applications.
- 8 Write a brief note on dosing with feedback.
- 9 What is the role of pharmacist in clinical pharmacokinetics?
- 10 Write the significance of population pharmacokinetics.

**PART – B (5x10 = 50 Marks)**

- 11 Describe the following:
  - a) Pharmacokinetic correlation in drug therapy. [5]
  - b) Bayesian theory [5]
- 12 Explain in detail about the role of genetic polymorphism in drug metabolism and target with examples. [10]
- 13 a) Explain various diseases where TDM is applicable. [4]  
b) Dosage variability with respect to genetics, disease and age. [6]
- 14 Write a note on drug dosing in elderly and pediatric patients. [10]
- 15 Add a note on:
  - a) Induction of drug metabolism. [5]
  - b) Dosage adjustment in hepatic disease. [5]
- 16 Explain various pharmacokinetic drug-drug interactions with suitable examples. [10]
- 17 Explain about the following:
  - a) GFR and creatinine clearance. [5]
  - b) Adaptive method with feedback. [5]
- 18 Write in brief about clinical pharmacokinetics. [10]

**FACULTY OF PHARMACY**

Pharm D (3 –YDC) II–Year (Instant) (Post Baccalaureate) Examination, February 2020

**Subject: Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring****Time: 3 Hours****Max.Marks: 70****Note: Answer all questions from Part – A. Any Five questions from Part – B.****PART – A (10x2 = 20 Marks)**

- 1 Write about determination of dose and dosing interval.
- 2 Write the TDM for phenytoin sodium.
- 3 Explain about inulin clearance.
- 4 Write a note on enzyme inhibition with examples.
- 5 Add a note on Biliary Excretion.
- 6 Give a brief account on dosage adjustment in uremic patients
- 7 Brief about pharmacogenetics and its applications.
- 8 Write a brief note on dosing with feedback.
- 9 What is the role of pharmacist in clinical pharmacokinetics?
- 10 Write the significance of population pharmacokinetics.

**PART – B (5x10 = 50 Marks)**

- 11 Describe the following:
  - a) Pharmacokinetic correlation in drug therapy. [5]
  - b) Bayesian theory [5]
- 12 Explain in detail about the role of genetic polymorphism in drug metabolism and target with examples. [10]
- 13 a) Explain various diseases where TDM is applicable. [4]  
b) Dosage variability with respect to genetics, disease and age. [6]
- 14 Write a note on drug dosing in elderly and pediatric patients. [10]
- 15 Add a note on:
  - a) Induction of drug metabolism. [5]
  - b) Dosage adjustment in hepatic disease. [5]
- 16 Explain various pharmacokinetic drug-drug interactions with suitable examples. [10]
- 17 Explain about the following:
  - a) GFR and creatinine clearance. [5]
  - b) Adaptive method with feedback. [5]
- 18 Write in brief about clinical pharmacokinetics. [10]

**FACULTY OF PHARMACY**

Pharm D(3- YDC) II - Year (Instant) (Post Baccalaureate) Examination, January 2020

**Subject: Clinical Research**

Time: 3 Hours

Max.Marks: 70

Note: Answer all questions from Part - A. Any Five questions from Part - B.

**PART - A (10x2 = 20 Marks)**

- 1 What is drug discovery? Write basic approaches to drug discovery,
- 2 What is IND "clinical hold"? Explain the basis for clinical hold.', "
- 3 List out various functions of CDSCO.
- 4 What is ANDA\*
- 5 Write briefly the roles and responsibilities of CRC as per ICH GCP.
- 6 What is vulnerable population? How are theirH ts protected?
- 7 Enumerate the essential documents in i i aJt als.
- 8 Write note on registration of clinical trials.
- 9 What is ICF?
- 10 What is blinding in clinical Trials? what is its significance?

**B (5x10 = 50 Marks)**

- 11 Explain the tools useL n head identification and optimization.
- 12 Explain dosage form development process.
- 13 Explain the bjeñtives, design and conduct of Phase I clinical trial studied with schedule Y requirement.
- 14 Explain NDA•review process with contents and submission.
- 15 a) Explain the IEC review procedure of a research proposal.  
b) Explain informed consent process.
- 16 Explain the role and responsibilities of sponsor in clinical trials as per ICH GCP.
- 17 Explain in detail the regulatory environment in USA.
- 18 a) Write note on clinical data storage and security.  
b) Explain randomization in clinical trials.

**FACULTY OF PHARMACY**

**Pharm D (6 – YDC) V – Year (Main & Backlog) Examination, June 2019**

**Subject: Clinical Research**

**Time: 3 Hours**

**Max.Marks: 70**

**Note: Answer all questions from Part – A. Any Five questions from Part – B.**

**PART – A (10x2 = 20 Marks)**

- 1 What is drug development? What are the steps involved in the process?
- 2 Write different methods of lead identification.
- 3 List out the key players in clinical drug development.
- 4 What is NDA? How is it filed as per guidelines of schedule Y?
- 5 What is waiver of consent in clinical research?
- 6 What is IEC? Write the composition and basic responsibilities of IEC..
- 7 What is Regulatory Authority? Write the general roles and responsibilities of Regulatory Authority.
- 8 Write advantages of electronic data capture in CDM.
- 9 Explain the responsibilities of monitor in clinical trials.
- 10 What are the types of control treatments in Phase III of clinical trials?

**PART – B (5x10 = 50 Marks)**

- 11 Explain the types of preclinical studies with regulatory requirements for conduct of studies. Discuss various animal pharmacology testing required for discovery of new drugs.
- 12 What is IND? Explain the review process of IND application.
- 13 Explain various elements of clinical trial study design.
- 14 Explain in detail the different methods of post marketing surveillance.
- 15 Give an overview of regulatory environment in Europe.
- 16 What is ICMR code? Explain the statement of specific principles for drug trials.
- 17 a) Explain various data entry methods.  
b) Write note on CRF design.
- 18 a) Explain various aspects of safety monitoring in clinical trials.  
b) Write note on quality assurance in CDM.

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**FACULTY OF PHARMACY****Pharm D (6 – YDC) V – Year (Main & Backlog) Examination, June 2019****Subject: Pharmacoepidemiology & Pharmacoeconomics****Time: 3 Hours****Max.Marks: 70****Note: Answer all questions from Part – A. Any Five questions from Part – B.****PART – A (10x2 = 20 Marks)**

1. Applications of pharmacoepidemiology and pharmacoeconomics.
2. Write about units of drug use.
3. Write a note on measurement of risk and relative risk.
4. Write about case control studies.
5. Explain in detail about prescription event monitoring.
6. Discuss odds ratio.
7. Write a note on spontaneous reporting.
8. Significance of hospital pharmacoepidemiology.
9. What are drug-induced birth defects?
10. Write about cost-benefit analysis of pharmacoeconomics.

**PART – B (5 x 10 = 50 Marks)**

11. Write a note on origin, aims and applications of Pharmacoepidemiology. [10]
12. a) Define medication adherence. Explain the methods to evaluate medication adherence. [5]  
b) Discuss the significance and steps of drug utilization review. [5]
13. Elaborate the cross-sectional, cohort, case- control studies of pharmacoepidemiological methods. [10]
14. Write about Ad Hoc data sources available for pharmacoepidemiological studies. [10]
15. Explain the pharmacoepidemiological methods used to study drug induced birth defects. [10]
16. Briefly discuss about the significance of relative and attributable risk. [10]
17. Explain the need of pharmacoeconomic evaluations in formulary management. [10]
18. Write a brief note on cost-benefit, cost-effectiveness study parameters with the help of case studies. [10]

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**FACULTY OF PHARMACY**

**Pharm D (6 – YDC) V – Year (Main & Backlog) Examination, June 2019**

**Subject: Clinical, Pharmacokinetics & Pharmacotherapeutic Drug Monitoring**

**Time: 3 Hours**

**Max.Marks: 70**

**Note: Answer all questions from Part – A. Any Five questions from Part – B.**

**PART – A (10x2 = 20 Marks)**

- 1 Write the importance of nomograms in designing of dosage regimen.
- 2 What is TDM? Write the indications for TDM.
- 3 Add a note on PK-PD correlation in drug therapy.
- 4 Write a note on Cyp-450 enzymes.
- 5 Write the significance of half life in clinical pharmacokinetics.
- 6 Explain enzyme induction with examples.
- 7 What are the methods involved in the conversion of IV to oral dose?
- 8 Write the TDM of digoxin.
- 9 Give two examples of genetic polymorphism in drug transport.
- 10 Write the importance of bioavailability in pharmacokinetics.

**PART – B (5x10 = 50 Marks)**

- 11 Explain in detail about the dosage adjustment in patients with hepatic disease.
- 12 Write a note on:
  - a) Bayesian theory
  - b) Analysis of population pharmacokinetic data.
- 13 Describe the role of genetic polymorphism in drug action.
- 14 Explain in detail about individualization of drug dosage regimen.
- 15 Write in detail about various pharmacokinetic drug-drug interactions with suitable examples.
- 16 Describe in detail about
  - a) Dosage adjustment in obese patients.
  - b) TDM of carbamazepine and phenytoin sodium.
- 17 Explain in detail the extra corporeal removal of drugs.
- 18 Describe the general approach for dosage adjustment in renal disease.

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**FACULTY OF PHARMACY**

Pharm D (6–YDC) V-Year (Main &amp; Backlog) Examination, July 2018

Subject: Clinical &amp; Pharmacokinetics Pharmacotherapeutic Drug Monitoring

Time: 3 Hours

Max.Marks: 70

**Note: Answer all questions from Part – A. Any Five questions from Part – B.****PART – A (10x2 = 20 Marks)**

- 1 What is the role of pharmacist in clinical pharmaceuticals?
- 2 What type of drugs should be monitored?
- 3 Why is creatinine clearance used in renal disease?
- 4 Write the TDM of digoxin.
- 5 Write the significance of population pharmacokinetics.
- 6 Write a note on indications for TDM.
- 7 Write a note on effect of hepatic disease on pharmacokinetics.
- 8 Name and contrast any two methods adjusting drug dose in renal disease.
- 9 Write any one method of dosage conversion from IV to oral dosing.
- 10 Define pharmacogenetics and write its applications.

**PART – B (50 Marks)**

- 11 Describe the effect of genetic polymorphism in drug transport and drug targets.
- 12 Explain TDM of drugs used in cardiovascular and organ transplantations.
- 13 Explain the drug dosing in elderly, pediatrics and obese patients.
- 14 Explain the measurement of glomerular filtration rate and creatinine clearance.
- 15 Explain various pharmacokinetic drug – drug interactions along with suitable examples.
- 16 Write a note on protocols for TDM and explain how TDM will affect individualization of drug dosage regime.
- 17 a) Explain briefly extracorporeal removal of drugs. 5  
b) Write a note on dosage adjustment in renal disease. 5
- 18 Explain briefly Bayesian theory and analysis of population pharmacokinetic data.

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**FACULTY OF PHARMACY**

Pharm D (6–YDC) V-Year (Main &amp; Backlog) Examination, July 2018

Subject: Clinical Research

Time: 3 Hours

Max.Marks: 70

**Note: Answer all questions from Part – A. Any Five questions from Part – B.****PART – A (10x2 = 20 Marks)**

- 1 What is drug discovery? Write basic approaches to drug discovery.
- 2 Write note on registration of clinical trials.
- 3 Write different methods of lead identification.
- 4 List out various functions of data management team.
- 5 What is periodic and interim review by EC?
- 6 What is waiver of consent in clinical research?
- 7 What is a target molecule? Write briefly the different approaches to target identification.
- 8 What are different control treatments in clinical trial design?
- 9 Explain the responsibilities of monitor in clinical trials.
- 10 What are “equivalence”, “superiority” and “non-inferiority” trials?

**PART – B (50 Marks)**

- 11 Explain the term “lead molecule”. Describe in detail the lead identification and optimization process.
- 12 List out various responsibilities of IRB. Explain review procedures of a research proposal by IRB.
- 13 Explain post marketing surveillance methods.
- 14 Explain the components of clinical trial design.
- 15 Discuss various animal pharmacology testing required for discovery of new drugs.
- 16 a) Give an overview of regulatory environment in USA.  
b) Write detailed note on selection of special groups as research participants.
- 17 Explain the statement of general principles and specific principles for clinical evaluation of drugs.
- 18 a) Explain data capture in CDM.  
b) Write note on ICF and PIC.

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## FACULTY OF PHARMACY

Pharm. D. (6 YDC) V – Year (Main & Backlog) Examination, July 2018

Subject : Pharmacoepidmiology and Pharmacoeconomics

Time : 3 hours

Max. Marks : 70

**Note: Answer all questions from Part-A & answer any Five questions from Part-B.**

### Part - A (10 x 2 = 20 Marks)

- 1 Write a note on the units of drug dispensed as an outcome measure.
- 2 Define Risk.
- 3 What is Pharmacoepidemiology?
- 4 Write a brief note on Incidence density.
- 5 Write a short note on case series and its significance.
- 6 Write the applications of Pharmacoeconomics.
- 7 Write a brief note on Time trade off method and Standard Gamble method.
- 8 Write a note on formulary and its use.
- 9 Give two examples of automated data sources.
- 10 Name any two drugs induced birth defects.

### Part - B (5 x 10 = 50 Marks)

- |   |    |
|---|----|
| 11 Elaborate on cost benefit analysis with a case study.                                  | 10 |
| 12 a) Write the advantages and disadvantages of adhoc data base systems.                  | 5  |
| b) Vaccine safety and its reporting.  | 5  |
| 13 a) What are the various types of costs in Pharmacoeconomic evaluations?                | 5  |
| b) Write a note on the origin and need of Pharmacoepidemiology.                           | 5  |
| 14 a) Discuss in detail the newer methods of measuring adherence.                         | 5  |
| b) Write in detail about relative risk with an example.                                   | 5  |
| 15 a) Write a note on the strengths and weaknesses of spontaneous reporting system.       | 5  |
| b) Role of a pharmacist in Formulary decision making.                                     | 5  |
| 16 a) Write in detail regarding the case control studies, their strengths and weaknesses. | 5  |
| b) Explain modified prescription event monitoring and its use in pharmacoepidemiology.    | 5  |
| 17 a) Differentiate between systematic reviews and meta analysis.                         | 5  |
| b) Discuss regarding hospital pharmacoepidemiology studies.                               | 5  |
| 18 a) Discuss about cost minimization analysis with an example.                           | 5  |
| b) Write a short note on QALY.  | 5  |

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**FACULTY OF PHARMACY**  
**Pharm. D (6 YDC) V-Year (Instant) Examination, March 2018**

**Subject : Clinical Research**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions from Part – A, answer any five questions from Part-B.**

**PART – A (10 x 2 = 20 Marks)**

- 1 What is Drug discovery? What are the steps involved in the process?
- 2 What is IND “clinical hold”? Explain the basis for clinical hold.
- 3 What is ANDA? Write note on its submission.
- 4 What is PMS and PSUR?
- 5 Write briefly the roles and responsibilities of CRC as per ICH GCP.
- 6 Write note on registration of clinical trials.
- 7 Enumerate the essential documents in clinical trials.
- 8 Write briefly about query management in CDM.
- 9 What is Patient information sheet?
- 10 What is blinding in clinical trials? What is its significance?

**PART – B (5 x 10 = 50 Marks)**

- 11 Explain the tools used in Lead identification and optimization.
- 12 Explain toxicity studies carried out in preclinical drug development.
- 13 Explain the objective, design and conduct of phase I clinical trial studies with schedule Y requirements.
- 14 Explain NDA review process with contents and format requirements.
- 15 Explain the IEC Review procedure of a research proposal.
- 16 Explain in detail the regulatory environment in USA.
- 17 (a) Explain Data Entry methods.  
(b) Write about clinical trials database lock.
- 18 Explain the role and responsibilities of sponsor in clinical trials as per ICH GCP.

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**FACULTY OF PHARMACY**

**Pharm D (6–YDC) V-Year (Instant) Examination, March 2018**

**Subject: Pharmacoepidemiology & Pharmacoeconomics**

**Time: 3 Hours**

**Max.Marks: 70**

**Note: Answer all questions from Part – A. Any Five questions from Part – B.**

**PART – A (10x2 = 20 Marks)**

- 1 Write a note on the monetary units being used as an outcome measure.
- 2 Write a brief note on time – risk relationship.
- 3 Define morbidity.
- 4 Write a brief note on incidence.
- 5 Write a short note on case reports and its significance.
- 6 Write the applications of pharmacoeconomics.
- 7 Define serious adverse event.
- 8 What is QALY?
- 9 Define teratogenesis. Give two examples of teratogens.
- 10 How are adverse effects with vaccines reported?

**PART – B (50 Marks)**

- 11 Elaborate on Cost Minimization analysis with a case study.
- 12 a) Write in detail about ad hoc data base systems.  
b) Special issues in vaccine safety.
- 13 a) What are the various types of outcomes in pharmacoeconomic evaluations?  
b) Write a note on the aims and potential applications of Pharmacoepidemiology.
- 14 a) Discuss in detail the various methods of measuring adherence.  
b) Write in detail about relative risk and odds ratio.
- 15 a) Write a note on the strengths and weaknesses of spontaneous reporting system.  
b) Role of a pharmacist in formulary decision making.
- 16 a) Write in detail regarding the cohort studies, their strengths and weaknesses.  
b) Explain prescription event monitoring and its use in pharmacoepidemiology.
- 17 a) Write briefly about meta-analysis and their role in PE studies.  
b) What are the methodological issues to be addressed by pharmacoepidemiologic research in the studies on birth defects?
- 18 a) What are the various methods to measure utility?  
b) Write a short note on ICER.

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**FACULTY OF PHARMACY**  
**Pharm. D (6 YDC) V-Year (Instant) Examination, March 2018**

**Subject : Clinical Pharmacokinetics and Pharmacotherapeutic Drug Monitoring**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions from Part – A, answer any five questions from Part-B.**

**PART – A (10 x 2 = 20 Marks)**

- 1 What is TDM? Write the Indications for TDM.
- 2 Write a note on drug interactions at elimination site.
- 3 Write about Cytochrome P-450 isoenzymes.
- 4 Write about determination of Dose and Interval.
- 5 Explain enzyme induction with examples.
- 6 Explain plasma protein binding with its significance.
- 7 Explain Biological half life.
- 8 What are the factors involved in conversion of Intra Venous to oral dosing?
- 9 What is Pharmacogenetics?
- 10 Write the TDM protocol for vancomycin.

**PART – B (5 x 10 = 50 Marks)**

- 11 Explain the TDM for cardiovascular diseases.
- 12 Describe the pharmacodynamic drug interaction in detail.
- 13 Explain in detail about the dosage adjustment in patients with hepatic disease.
- 14 Write about Renal impairment. Write the importance of GFR and Creatinine clearance in dose adjustment.
- 15 (a) Describe the Bayesian-theory.  
(b) Pharmacokinetic correlation in drug therapy.
- 16 Explain in detail genetic polymorphism in (a) Drug metabolism (b) Drug absorption
- 17 How do you fix the dose for Obese, pediatric and geriatric patients?
- 18 Explain the extracorporeal removal of drugs.

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**FACULTY OF PHARMACY**  
**Pharm. D (6 YDC) V-Year (Main) Examination, July 2017**

**Subject : Pharmacoepidemiology and Pharmacoeconomics**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions from Part - A and answer any five questions from Part-B.**

**PART – A (10 x 2 = 20 Marks)**

- 1 What is the need for Pharmacoepidemiologic studies in India?
- 2 Write briefly on defined daily dose and its significance.
- 3 What are the various methods to measure drug use?
- 4 Write the cost effective analysis plane.
- 5 How is odds ratio calculated? Give an example.
- 6 What is a decision tree?
- 7 What is ACER?
- 8 Define a formulary.
- 9 What is VAERS?
- 10 Define teratogenesis. Give two examples of teratogens.

**PART – B (5 x 10 = 50 Marks)**

- 11 (a) What are the methodologic problems to be addressed by Meta-analysis?  
(b) Studies on drug induced birth defects.
- 12 Write in detail the concept and measurement of risk and their significance in pharmacoepidemiology.
- 13 Write in detail the concept of defined and prescribed daily doses and the other units of presentation of volume.
- 14 (a) Write a short note on surveys of drug use and its significance in pharmacoepidemiological studies.  
(b) Write a note on record linkage system and its need in pharmaco epidemiological studies.
- 15 (a) Discuss regarding the automated data systems with examples.  
(b) Write in detail regarding the DUE along with its applications.
- 16 Describe the Cost benefit analysis, their applications, advantages and disadvantages with the help of a case study.
- 17 (a) Elaborate on the role of pharmacoeconomics in formulary management decisions.  
(b) Write a note on methods to measure indirect and intangible benefits.
- 18 (a) Write a brief note on ECHO model.  
(b) What are the various types to costs in pharmacoeconomics study?

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**FACULTY OF PHARMACY**  
**Pharm. D (6 YDC) V-Year (Main) Examination, July 2017**

**Subject : Clinical Research**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions from Part - A and answer any five questions from Part-B.**

**PART – A (10 x 2 = 20 Marks)**

- 1 Mention different types of preclinical studies.
- 2 What are the requirements to conduct clinical trials as per schedule Y?
- 3 What is ANDA? How is it filed ?
- 4 Explain briefly the steps involved in CDM.
- 5 What is PIC? Explain its role.
- 6 What is ICMR code?
- 7 Define the terms “protocol” and “protocol amendments”.
- 8 What is a regulatory authority? Write the general roles and responsibilities of regular authority.
- 9 What is “subject identification code” in clinical trials?
- 10 Write the composition of IRB and explain quorum for meetings.

**PART – B (5 x 10 = 50 Marks)**

- 11 Explain Dosage form development process.
- 12 (a) Explain the principles of CDSCO GCP guidelines.  
(b) Explain the roles and responsibilities of Auditors as per ICH GCP.
- 13 What are the contents of INDA ? How IND application is reviewed?
- 14 Who is a sponsor? Enumerate sponsor’s responsibilities as per ICHGCP.
- 15 (a) Explain randomization in clinical trials.  
(b) Write notes on multicentre trials.
- 16 Discuss various toxicological testing required for discovery of new drugs.
- 17 (a) Explain various Data Entry methods.  
(b) Write about safety monitoring in clinical Trials.
- 18 (a) Explain in detail responsibilities of investigator as per ICH GCP.  
(b) Give an overview of Regulatory Environment in Europe.

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**FACULTY OF PHARMACY**  
**Pharm. D (6 YDC) V-Year (Main) Examination, July 2017**

**Subject : Clinical Pharmacokinetics and Pharmacotherapeutic Drug Monitoring**

**Time : 3 Hours**

**Max. Marks: 70**

**Note: Answer all questions from Part - A and answer any five questions from Part-B.**

**PART – A (10 x 2 = 20 Marks)**

- 1 What is the role of pharmacist in clinical pharmacokinetics?
- 2 Write the significance of population pharmacokinetics.
- 3 What are the major considerations in TDM?
- 4 What are the main factors that influence drug design in renal disease?
- 5 Why is creatinine clearance difficult to predict? Explain.
- 6 Define pharmacogenetics and write its applications.
- 7 Write the TDM for carbamazepine.
- 8 What are the pharmacokinetic considerations in designing a dosage regime?
- 9 Write a note on pharmacokinetic drug – drug interactions with suitable examples.
- 10 Write any one method dosage conversion from I.V. to oral dosing.

**PART – B (5 x 10 = 50 Marks)**

- 11 Explain TDM drugs used in cardiovascular and seizure disorders.
- 12 (a) Explain dosage adjustment for uremic patients.  
(b) Write a note on effect of hepatic disease on pharmacokinetics.
- 13 Explain briefly Bayesian theory and analysis of population pharmacokinetic data.
- 14 Explain the role of cytochrome p-450 isoenzyme in genetic polymorphism in drug metabolism.
- 15 Explain drug dosing in elderly, pediatrics and obese patients.
- 16 Describe inhibition and induction of drug metabolism.
- 17 Explain measurement of glomerular filtration rate and creatinine clearance.
- 18 Explain how TDM will affect individualization of drug dosage Regime.

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**FACULTY OF PHARMACY**

Pharm. D. (6 YDC) V Year (Instant) Examination, January 2014

**Subject: Clinical Research****Time: 3 Hours****Max. Marks: 70****Note: Answer all questions from Part A. Answer any five questions from Part B.****PART – A (10 x 2 = 20 Marks)**

- |    |   |   |
|----|---|---|
| 1  | Write briefly about different types of masking designs in clinical trials.      | 2 |
| 2  | Define IND and explain when IND application is not required.                    | 2 |
| 3  | What are the advantages of randomized clinical trials?                          | 2 |
| 4  | Explain the importance of drug characterization in drug discovery.              | 2 |
| 5  | Write about the role of regulatory authority in clinical trials.                | 2 |
| 6  | Explain briefly about phase II clinical trials.                                 | 2 |
| 7  | Write briefly about pharmacological approach in drug development.               | 2 |
| 8  | What is meant by informed consent process and explain the contents in document? | 2 |
| 9  | Explain the procedures of IRB.  | 2 |
| 10 | Define ADR, write briefly about the monitoring of ADR.                          | 2 |

**PART – B (5 x 10 = 50 Marks)**

- |    |   |    |
|----|---|----|
| 11 | Explain in detail about CDSCO guidelines in maintaining good clinical practice.   | 10 |
| 12 | (a) Explain about phase III clinical trials guidelines.                           | 5  |
|    | (b) Write about various methods of post marketing surveillance.                   | 5  |
| 13 | Explain in detail about the design of clinical trials.                            | 10 |
| 14 | (a) Write about safety measures in ADR.   | 5  |
|    | (b) Explain the components of data management in clinical trials.                 | 5  |
| 15 | Write in detail about the submission of ANDA.                                     | 10 |
| 16 | Explain about composition, responsibilities and procedures of IEC.                | 10 |
| 17 | (a) Write about regulatory authority in India.                                    | 5  |
|    | (b) Explain the responsibilities of investigators and auditors in clinical trial. | 5  |
| 18 | (a) Write about methods of safety monitoring in clinical trials.                  | 6  |
|    | (b) Write a note on ethical guidelines in clinical research.                      | 4  |

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## FACULTY OF PHARMACY

Pharm. D. (6 YDC) V-Year (Instant) Examination, January 2014

Subject: Pharmaco epidemiology and Pharmacoeconomics

Time: 3 Hours

Max.Marks: 70

**Note: Answer all questions from Part A. Answer any five questions from Part B.****PART – A (10 x 2 = 20 Marks)**

- |    |  |   |
|----|--|---|
| 1  | Define cost utility analysis.                    | 2 |
| 2  | What do you mean by cost effectiveness analysis? | 2 |
| 3  | What do you mean prescription event monitoring?  | 2 |
| 4  | Define formulary.                                | 2 |
| 5  | Mention pharmacoeconomic principles.             | 2 |
| 6  | Write short notes on:                            | 2 |
|    | i) Case report                                   |   |
|    | ii) Case series.                                 |   |
| 7  | Write a note on meta analysis.                   | 2 |
| 8  | Mention two applications of pharmacoeconomics.   | 2 |
| 9  | Write a note on spontaneous reporting.           | 2 |
| 10 | What do you mean by decision analysis?           | 2 |

**PART – B (5 x 10 = 50 Marks)**

- |         |   |    |
|---------|---|----|
| 11      | Describe in detail need and applications of pharmacoeconomics and pharmacoepidemiological studies in the field of pharmacy practices. | 10 |
| 12.     | Write notes on attributable risk, relative risk and odds ratio..  | 10 |
| 13.     | Describe in detail, theoretical pharmacoepidemiological methods with the help of case studies.  | 10 |
| 14.     | Write notes on Adhoc data source and automated data system.   | 10 |
| 15. (a) | Explain in detail developing a formulary list and formulary management.   | 7  |
|         | (b) Short note on teratology reports.   | 3  |
| 16.     | Explain in detail cost minimization, cost benefit and cost effectiveness analysis with the help of case studies.                      | 10 |
| 17.     | Explain health economics, health outcome research and health related quality of life.   | 10 |
| 18.     | Write short note on DDD, PDD and medication adherence measurement.  | 10 |

**FACULTY OF PHARMACY****Pharm. D. (6YDC) V Year (Main) Examination, Sept/Oct 2013****Subject: Clinical Research****Time: 3 Hours****Max.Marks: 70****Note: Answer all questions from Part A. Answer any five questions from Part B.****PART – A (10x2 = 20 Marks)**

- |     |  |   |
|-----|--|---|
| 1.  | Write about the responsibilities of IRB.                                   | 2 |
| 2.  | Define IND and write its applications.                                     | 2 |
| 3.  | What is the role of dosage form in drug development process?               | 2 |
| 4.  | What is the role of auditor's in clinical trials?                          | 2 |
| 5.  | Write about the protocol design in clinical study document.                | 2 |
| 6.  | Write in brief about safety monitoring in clinical trials.                 | 2 |
| 7.  | Write about different methods of randomization in clinical trials.         |   |
| 8.  | Define informed consent process and when the documents of ICP are revised. | 2 |
| 9.  | Write about methods of reporting ADR.                                      | 2 |
| 10. | Write about the advantages of double-blind design in clinical trials.      | 2 |

**PART – B (5x10 = 50 Marks)**

- |        |  |    |
|--------|--|----|
| 11.    | Explain in detail about GCP according to ICH guidelines.                                 | 10 |
| 12.(a) | Write the responsibilities of sponsor and clinical research associate in clinical trial. | 7  |
|        | (b) Write a note on CRF.   | 3  |
| 13.    | Define clinical trial and explain various phases of clinical trials.                     | 10 |
| 14.    | Explain about regulatory environment in USA and India.                                   | 10 |
| 15.(a) | Write about data management in clinical trials.  | 5  |
|        | (b) Explain how the challenges can be overcome in implementation of guidelines.          | 5  |
| 16.    | Explain in detail how a clinical trial can be designed.                                  | 10 |
| 17.    | Write in detail about submission of ANDA.  | 10 |
| 18.(a) | Define ADR and explain how it can be monitored.  | 5  |
|        | (b) Write the composition and responsibilities of IEC.                                   | 5  |

## FACULTY OF PHARMACY

Pharm. D. (6 YDC) V Year (Main) Examination, September 2013

Subject: Pharmacoepidemiology and Pharmacoeconomics

Time: 3 Hours

Max.Marks: 70

**Note: Answer all questions from Part A. Answer any five questions from Part B.****PART – A (10x2 = 20 Marks)**

- |     |  |   |
|-----|--|---|
| 1.  | Define cost of illness.  | 2 |
| 2.  | What do you mean by cost minimization analysis?  | 2 |
| 3.  | Define cost utility analysis.  | 2 |
| 4.  | What do you mean by pharmacoepideomiology?   | 2 |
| 5.  | Mention various factors to be considered in evaluating pharmacoepideomiological study. | 2 |
| 6.  | What do you mean by Cochrane reviews?  | 2 |
| 7.  | How do you measure medication adherence?   | 2 |
| 8.  | Write a note on meta analysis.   | 2 |
| 9.  | Define teratology reports.   | 2 |
| 10. | Mention major quality of life domains.   | 2 |

**PART – B (5x10 = 50 Marks)**

- |        |  |    |
|--------|--|----|
| 11.    | Describe aims, applications of pharmacoepidemiology. Add a note on the origin and evolution.                 | 10 |
| 12.    | Describe in detail medication adherence measurement. Add a note on DDD.                                      | 10 |
| 13.    | Write notes on measurement of risk, attributable risk and relative risk.                                     | 10 |
| 14.    | Explain various pharmacoepiemiological methods with the help of case studies.                                | 10 |
| 15.(a) | Explain in detail developing a formulary list and formulary management?                                      | 7  |
| (b)    | Short note on teratology reports.  | 3  |
| 16.    | What are the sources of data for pharmacoepidemiological studies?  | 10 |
| 17.    | What do you mean by pharmacoepidemiological studies in hospital setup and add a note on vaccine safety?      | 10 |
| 18.    | What are various pharmacoeconomic methods of evaluation and explain in detail with the help of case studies. | 10 |