Code No: E-12202/PCI

FACULTY OF PHARMACY

B. Pharmacy VI– Semester (PCI) (Backlog) Examination, March-2023

Subject : Biopharmaceutics and Pharmacokinetics

Time: 3 Hours **Max.Marks:75**

PART-A

Note: Answer all the questions. **(10x2=20marks)**

1. Write Henderson Hasselbach equation for weak acids and weak bases
2. Describe any one barrier for permeation of drugs.
3. Describe the effect of gastrointestinal contents on drug absorption orally.
4. Define bioavailability and bioequivalence.
5. Give pictorial representation of enterohepatic cycling
6. Explain the terms MEC, MSC and therapeutic range.
7. If equation of the curve is $C = 25.e^{-0.46t}$ for a drug administered by IV route and following one compartment open model, then calculate its Biological half life.
8. Write the equation for calculating steady state drug concentration for one compartment open model administered by IV infusion.
9. The equation that best fits the pharmacokinetics of paracetamol after oral administration of 500mg dose is $C = 1.18 (e^{-0.24t} \_ e^{-1.6t})$. What is its peak time?
10. Define non-linear pharmacokinetics.

PART-B

Note: Answer any two questions **(2x10=20Marks)**

11. A 59kg woman was given a single IV dose of an antibacterial drug at a dose level of 6mg/kg. Blood samples were taken at various time intervals. The concentration of the drug was determined in the plasma fraction of each blood sample and the following data was obtained. Assume that it follows on compartment open model. Calculate all possible Pharmacokinetic parameters.

Time (Hrs)	0.25	0.5	1.0	3	6	12	18
Plasma Concetration (mg/ml)	8.21	7.87	7.23	5.15	3.09	1.11	0.4

12. Describe the different mechanisms of drug absorption through GIT.
13. Discuss about factors affecting protein – drug binding and clinical significance of protein binding of drugs.

PART-C

Note: Answer any seven questions **(7x5=35Marks)**

14. Write a note on dosage form characteristics influencing drug absorption.
15. Describe about the physiological barriers to the distribution of drugs. Any three
16. Explain phase II metabolic pathway of drugs.
17. Explain the various methods for assessment of bioavailability

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18. A dose of 100mg of a drug is administered by rapid intravenous injection to a 70kg healthy adult male. Assume that the drug follows a two-compartment model and can be described by the following equation $C = 45\ e^{-1.7t} + 15\ e^{-0.22t}$ where c = μg/ml; t = hr. Calculate K_{12}; K_{21}; K_{13}; Vc; C_0.
19. A drug whose $K_E = 0.02hr^{-1}$ and V_d = 20Lts is infused to a patient at a rate of 3mg/hr for 8hrs. What is the concentration of the drug in the body 2 hrs after the cessation of the infusion?
20. Write in detail about in vitro drug dissolution models.
21. Write a note on non-linear pharmacokinetics.
22. Explain methods of adjustment of dose and dosage regimen in patients with hepatic failure.

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Code No: E-12201/PCI

FACULTY OF PHARMACY

B.Pharmacy VI Semester (PCI) (Backlog) Examination, March-2023

Subject: Herbal Drug Technology

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 Define herbs and herbal preparations.
2 Define Asavas and churnas.
3 Write the scope of Nutraceuticals.
4 Define herbal food interaction with suitable examples.
5 Define herbal excipients with examples.
6 Define herbal cosmetics with examples.
7 Define Bioprospecting and patent.
8 Write the constitution of ASU DCC.
9 Write the scope and future prospectus of herbal drug industry.
10 Write objectives of schedule T.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Explain the guidelines of cGAP in collection of medicinal plants.
12 Write a detail note on herbal formulations – tablets.
13 Write a elaborate note on schedule Z.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Explain the preparation and standaridization of Churnas.
15 Write a brief note on Biodynamic Agriculture.
16 Write a note on herb drug interactions with suitable examples.
17 Explain about the side effects and interactions of Garlic and Pepper.
18 Write a brief note on Antioxidants in herbal preparations.
19 Write a note on Phytosomes.
20 Explain in detail about ASU DTAB and IPR.
21 Give a brief note on Schedule T.
22 Write a brief note on herbal drug industries present scope and future prospectus.

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Code No. E-12200/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Backlog) Examination, March 2023

Subject: Pharmacology-III

Time: 3 Hours **Max. Marks: 75**

PART- A

Note: Answer all the questions. **(10 X 2 = 20 Marks)**

1. Differentiate between laxatives and purgatives.
2. What is ulcer and explain the mechanism of action of H2 receptor blockers?
3. What is mutagenicity and give examples of drugs causing mutagenic effects.
4. What are macrolides? Give examples.
5. Write about the treatment for heavy metal poisoning.
6. Define circadian rhythm and circannual rhythm.
7. What are nasal decongestants?
8. Define monoclonal antibodies and write their applications.
9. What is amoebiasis and give any four examples of drugs?
10. Define teratogenicity and mutagenicity.

PART- B

Note: Answer any two questions. **(2 X 10 = 20 Marks)**

11. Classify anticancer agents and explain in detail about the mechanism of action, therapeutic uses and adverse effects of alkylating agents.
12. What is bronchial asthma? Classify anti-asthmatic drugs. Explain the pharmacology of any two drugs.
13. Classify antimalarial drugs. Write the pharmacology of any two classes of drugs.

PART- C

Note: Answer any seven questions. **(7 X 5 = 35 Marks)**

14. Write short notes on the pharmacology of proton pump inhibitors.
15. Explain the MOA and adverse effects of aminoglycosides and chloramphenicol.
16. Explain the general principles of treatment of poisoning.
17. Classify antitubercular agents and write the MOA and adverse effects of isoniazid.
18. What are immunosuppressants and write about their applications.
19. Write about the treatment for urinary tract infections.
20. Define toxicology and explain the types of toxicity studies.
21. Classify antiviral agents and write the MOA and adverse effects of acyclovir.
22. Classify pencillins and write a note on β-lactum inhibitors?

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Code No: E-12204/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Backlog) Examination, April -2023

Subject: Quality Assurance

Time: 3 Hours **Max. Marks: 75**

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. List the ICH Q documents
2. Explain the concept of QSEM.
3. What are the functions of a warehouse?
4. What is the role of study director in a non-clinical lab testing?
5. What are the objectives of sanitation in a drug manufacturing area?
6. What is meant by secondary packaging materials? Give examples.
7. Define analytical method validation and list the parameters.
8. What is the importance of distribution record?
9. List the standards used for the qualification of UV spectrophotometer.
10. Define validation master plan. What is its use?

PART-B

Note: Answer any two questions **(2 x 10 = 20 Marks)**

11. Describe the concept of TQM?
12. What are the benefits of NABL accreditation? Describe NABL accreditation procedure.
13. Explain in detail, the purpose, production and contents of master formula record.

PART-C

Note: Answer any seven questions **(7 x 5 = 35 Marks)**

14. Explain the elements of QBD.
15. Explain the location, construction and sanitation of plant.
16. Explain the control of contamination in pharma industry.
17. What are the QC tests for glass as a packaging material?
18. What are the contents of a GLP protocol?
19. What is mean by recall? Explain the recall process of pharmaceutical products.
20. Define and explain the contents of Master Formula Record.
21. What are the parameters to be checked in the calibration of UV spectrophotometer? Explain any two in detail.
22. What is the difference between calibration, qualification and validation?

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Code No: E-12199/PCI

FACULTY OF PHARMACY

B. Pharmacy VI Semester (PCI) (Backlog) Examination, March / April 2023

Subject: Medicinal Chemistry-III

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define& Classify antibiotics?
2. Write the structure of Pencillin-V& Oxytetracycline?
3. Write the structure and uses of Kanamycin?
4. Define prodrugs?
5. Write the structure and mechanism of action of Chloramphenicol?
6. Write the structure of Ethionamide & Ethambutol?
7. Define Tafts steric parameter & Hammet's electronic parameter?
8. Write the mechanism of action of Aminoglycosides?
9. Write the mode of action of Antifungal agents?
10. What are β-lactamase inhibitors?

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Give the various classes of antivirl drugs. Write the synthesis & mode of action of Acyclovir?
12. Define β-lactam antibiotics and explain the classification, SAR and mode of action of Penicillins?
13. Write the various classes of anti fungal agents. Write the synthesis & mode of action of Miconzole?

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Discuss the chemical degradation of cephlosporins?
15. Give the mechanism of action, SAR and uses of Tetracycline?
16. Explain the structure, synthesis, mode of action and uses of Dapsone?
17. Write the applications of Prodrugs?
18. Write the structure, synthesis, mode of action and uses of Chloroquine?
19. Give the various classes of Anthelmintics & write the synthesis of Mebendazole?
20. Give a note on solid phase synthesis in combinatorial chemistry?
21. Give the synthesis, mode of action and uses of Trimethoprim?
22. Write the structure, synthesis, mode of action and uses of Ciprofloxacin?

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Code No: E-12203/PCI

FACULTY OF PHARMACY

B. Pharmacy VI Semester (PCI) (Backlog) Examination, April 2023

Subject: Pharmaceutical Biotechnology

Time: 3 Hours **Max. Marks: 75**

PART-A

Note: Answer all the questions. **(10x2=20marks)**

1. What is genetic engineering?
2. Write a brief note on plasmids.
3. Write a note on DNA ligases.
4. What are nucleases? Explain the types nucleases.
5. Define vaccines. Write the differences between attenuated and killed vaccines.
6. Write the preparation and uses of human Thrombin.
7. What is biosensor? Write the main components used in biosensor.
8. Write about foam control equipment.
9. Write a note on transposons.
10. Write the organisms responsible for the production of Amylases and Lipases.

PART-B

Note: Answer any two questions **(2x10=20Marks)**

11. Explain the production of insulin byr DNA technology.
12. Explain the production of penicillin by fermentation technology.
13. What is hybridoma technology? Explain the production of monoclonal antibodies.

PART-C

Note: Answer any seven questions **(7x5=35Marks)**

14. What are vectors? Explain insertion and replacement Vectors (Bacteriophage vector).
15. Write the applications of genetic Engineering in medicine.
16. Explain the stability of official vaccines.
17. Explain generalized transduction and specialized transduction.
18. What is recombination? Explain general mechanism of recombination.
19. Explain the collection, processing and storage of whole human blood.
20. Draw a neat labeled diagram of a typical fermentor.
21. Explain the aeration and agitation process in fermentation.
22. Write about IgG and IgE antibodies.

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Code No.D-8254/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main & Backlog) Examination, September 2022

Subject: Biopharmaceutics & Pharmacokinetics

Time: 3 Hours **Max. Marks: 75**

PART-A

Note: Answer all the questions: **(10 x 2 = 20 Marks)**

1 What are the different sites of Presystemic metabolism of orally administered drugs?
2 What is Lipinskis rule of five?
3 What are the steps for drug distribution?
4 Define Microconstants and Hybrid constants and write relationship between them.
5 What is Flip-Flop Phenomenon and how it is useful in method of residual?
6 Draw plasma-conc.time profile curve and mention the list of pharmacokinetic and pharmacodynamics, parameters.
7 What is IVIVC and comparison of dissolution profile?
8 What is the difference between Absolute bioavailability and Relative bioavailability.
9 Mention the equation for K12, K21,Vp and Cc.
10 The Vd of Chloroquine is 15000lts and clearance is 15 lts. Calculate the biological half of that drug.

PART- B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Define absorption. Write in detail about mechanism of drug absorption with diagram.
12 Explain in detail about Bioequivalence study protocols.
13 Derive Michaelis-Menten equation and how do you estimate Km and V_{max}.

PART- C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 What is biotransformation. Explain the objectives and phase II reaction with suitable examples.
15 Write notes on
A) Concept of Clearance B) Enzyme induction and Enzyme inhibition
16 Write about significance and kinetics of protein drug binding.
17 Write in detail about physiological barriers of drug distribution.
18 How do you calculate absorption rate constant, Ka by using Wagner Nelson method?
19 Explain the pharmacokinetic parameters of a drug which follows one compartment open model when given by intravenous bolus with relevant mathematical equations.
20 What are the different methods for Assessment of Bioavailability?
21 Write in detail about pH partition hypothesis and its limitation.
22 A 60 kg male received 2mg/kg of a drug orally. The following plasma concentration vs time data is obtained. Assume the drug follows one compartment open model and it is completely absorbed. Calculate all possible pharmacokinetic parameters.

Time(hr)	1	2	3	4	5	6	8	10	12	14
Plasma Conc. (µg/ml)	3.2	7.3	9.1	9.7	9.7	9.2	7.1	5.3	4.0	3.0

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Code No. D-8253/PCI

FACULTY OF PHARMACY

B. Pharmacy VI -Semester (Main & Backlog) Examination, September 2022
Subject: Herbal Drug Technology

Time: 3 Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define and exemplify Ayurvedic product and herbal drug preparation.
2. Write principle of Unani system of medicine.
3. Write about Breeder's right.
4. Write composition and functions of ASUDTAB.
5. Write about spirulina as health food.
6. Define asavas and arishtas. Give two examples each.
7. Write about health foods.
8. What is traditional knowledge? Give examples.
9. Write about any two natural binders.
10. Classify nutraceuticals giving examples.

PART – B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Write about principles of integrated pest management. Give a detailed account of biopesticides.
12. Elaborate on the WHO guidelines for assessment of herbal drugs.
13. Write a note on: a) Phytosomes b) Herbal disintegrants.

PART – C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Explain about the methods for identification and authentication of herbs.
15. Write a note on preparation and evaluation of bhasmas.
16. Discuss the role of nutraceuticals in the prevention, therapy and management of cancer.
17. Write the role of antioxidants in herbal formulations. Give a brief account of these materials.
18. Write a short note on schedule Z.
19. What is bioprospecting policy? Give an overview of the process of bioprospecting herbs as medicines.
20. Give a brief account of herbal hair dyes.
21. Write a detailed note on herb drug interactions.
22. List objectives of Schedule T.

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Code No: D-8251/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main & Backlog) Examination, August - 2022

Subject: Medicinal Chemistry - III

Time: 3 Hours **Max. Marks: 75**

Note: Answer All Questions from Part –A, Any two Questions from Part-B. and Any seven Questions from Part-C

PART – A (10 X 2 = 20 Marks)

1. Write the synthesis, mechanism of action and uses of Metronidazole.
2. Mention any six Quinoline drugs.
3. What are Monobactams? Give examples with one structure.
4. Mention any six ant tubercular agents.
5. Write about the chemical degradation of Penicillins.
6. Mention any six antiviral drugs.
7. What is Cotrimoxazole? Give its uses.
8. Give examples of antifungal antibiotics.
9. What are Macrolides? Give examples.
10. Mention any six anti protozoal agents

PART- B (2 X 10 = 20 Marks)

11. Classify antibiotics based on chemical structure with examples.
12. Write a note on anti tubercular drugs.
13. Classify anti-malarial agents with examples. Give the synthesis, MOA and uses of any one drug.

PART - C (7 X 5 = 35 Marks)

14. Write the synthesis, mode of action and therapeutic uses of Para amino salicylic acid and isoniazid.
15. Discuss the SAR of quinolones.
16. Give the synthesis, MOA and uses of any two anti fungal agents.
17. What are sulfonamides? Give their importance in chemotherapy.
18. Write about antiviral drugs.
19. Give the applications of Prodrugs with examples.
20. Classify anti-tubercular drugs with examples.
21. Write about solid phase synthesis in combinatorial chemistry.
22. Write a note on anthelmintics.

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Code No: D-8255/PCI

FACULTY OF PHARMACY

B. Pharmacy VI – Semester (PCI) (Main & Backlog) Examination, September 2022

Subject: Pharmaceutical Biotechnology

Time: 3Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1) Define Immobilization. What are the types of immobilization?
2) What is protein engineering?
3) What are DNA ligases.
4) What are nucleases? Explain the types of nucleases.
5) What are vaccines? Enlist types of vaccines.
6) What are Plasma substitutes.
7) What are mutants? Types of mutants.
8) What are foam controlling materials
9) What are transposons.
10) Write the organisms responsible for the production of Amylases and Lipases.

PART – B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11) Explain the production of insulin by rDNA technology
12) Explain the production of penicillin by fermentation technology
13) What is hybridoma technology? Explain the production of monoclonal antibodies.

PART – C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14) Explain pBR322 and pUC vectors
15) Write the applications of genetic Engineering in medicine
16) Explain the stability of official vaccines
17) Explain Enzyme linked immunosorbent Assay.
18) What is recombination? Explain general mechanism of recombination.
19) Explain the collection, processing and storage of whole human blood.
20) Explain the preparation of dried human plasma and dried human serum.
21) Explain type I and type II hypersensitivity reactions.
22) Write about IgG and IgE antibodies.

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Code No: D-8256/PCI

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, September 2022

Subject: Quality Assurance

Time: 3Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1) What is SOP.? Explain.
2) What is Warehousing? Explain.
3) Explain of specification.
4) What is Sources of impurities? Explain.
5) What is short note on Batch Formula Record.
6) Define ISO 14000
7) Define Quality by design (QbD)
8) Define Quality Assurance.
9) Define GMP.
10) Explain of trend (OOT)

PART – B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11) Write briefly about Quality control test for Containers, rubber closures.

12) Define ICH. Explain about ICH Guidelines.

13) Write briefly about importance, scope of validation and types of validation.

PART – C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14) Write a short note on ISO 9000 series?

15) Write a short note on Total Quality Management (TQM)

16) List out what are the different analytical instrumentation used in the estimation of impurities.

17) Explain about validation master plan.

18) Explain about Personnel responsibilities, training, and hygiene.

19) Describe SOP, Quality audit and Quality Review.

20) Explain about Equipment selection, purchase specifications and maintenance.

21) Explain ISO certification procedure and its advantages?

22) Explain about calibration, qualification & validation.

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Code No. D-8252/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main &Backlog) Examination, August 2022

Subject: Pharmacology-III

Time: 3 Hours **Max. Marks: 75**

PART- A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Differentiate between expectorants and antitussives.
2. What are antiemetics?
3. What is ulcer and explain the mechanism of action of proton pump inhibitors?
4. What is teratogenicity and give examples of drugs causing teratogenic effects.
5. What are fluoroquinolones? Give examples.
6. Write about the treatment for organophosphorous poisoning.
7. Define Chronotherapy and write its applications.
8. Write a note on carminatives.
9. Define monoclonal antibodies and write their applications.
10. What is amoebiasis and mention any four drugs used in the treatment of amoebiasis?

PART- B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Classify anticancer agents and explain in detail about the mechanism of action, therapeutic uses and adverse effects of antimetabolites.
12. What is bronchial asthma? Classify anti-asthmatic drugs. Explain the pharmacology of any two drugs.
13. Classify antiviral drugs. Write the pharmacology of reverse transcriptase inhibitors.

PART- C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Write short notes on the pharmacology of H2 receptor blockers.
15. Explain the MOA and adverse effects of tetracyclines and penicillins.
16. Explain the general principles of treatment of poisoning.
17. Classify antifungal agents and write the MOA and adverse effects of amphotericin B.
18. Write short note on immunostimulants.
19. Write about the treatment for urinary tract infections.
20. Define toxicology and explain the types of toxicity studies.
21. Discuss the clinical symptoms and management of morphine poisoning.
22. What is clotrimoxazole and mention its advantages?

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Code No. D-8180/PCI

FACULTY OF PHARMACY

B. Pharmacy VI Semester (PCI) (Backlog) Examination, February / March 2022

Subject: Pharmaceutical Biotechnology

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all questions: **(10 x 2 = 20 Marks)**

1. What are mutants? Types of mutants.
2. Define Immobilization. What are the types of immobilization?
3. Write the differences between Exonucleases and Endonucleases.
4. What are vectors? Write the ideal properties of vectors.
5. Write few applications of hybridoma technology.
6. What are toxins? Explain the method of conversion of toxin to toxoid.
7. Write the preparation and uses of human fibrinogen.
8. Write about types of aerators in Fermentor.
9. What is protein engineering?
10. Differentiate between prokaryotic and Eukaryotic organisms.

PART - B

Note: Answer any two questions: **(2 x 10 = 20 Marks)**

11. Write differences between HLA and MHC. Discuss the structure and function of MHC.
12. Explain the typical structure of Immunoglobulin with neat labeled diagram and types and functions of Antibodies.
13. What are plasma substitutes? Explain the manufacturing of plasma substitutes and standardization.

PART - C

Note: Answer any seven questions: **(7 x 5 = 35 Marks)**

14. Write a brief notes on Protein Engineering.
15. Explain the working process of polymerase chain reaction.
16. Explain pBR322 and pUC vectors.
17. Discuss the general methods of preparation of vaccines.
18. Explain southern blotting technique.
19. Explain in detail direct and indirect methods of ELISA.
20. What are mutations? Explain the types of mutations.
21. Explain the preparation of dried human plasma and dries human serum.
22. Explain type I and type II hypersensitivity reactions.

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Code No: D-8181/PCI

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Backlog) Examination, February / March 2022

Subject: Quality Assurance

Time: 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part –A, Any two questions from Part-B. and any seven questions from Part-C

PART – A (10 X 2 = 20 Marks)

1. What is the purpose of ICH guidelines?
2. What are the differences between QA and QC?
3. What is meant by control article and test system in a GLP study?
4. Differentiate between primary and secondary packaging materials.
5. Classify glass as packaging material as per IP
6. What are the objectives of documentation? Give examples of documents.
7. What is the difference between Master Formula Record and Batch Formula Record?
8. Classify the pharmaceutical complaints.
9. What is the difference between qualification and validation?
10. Why an equipment should be calibrated in a lab.

PART - B (2 X 10 = 20 Marks)

11. Define validation and explain the importance of validation.
    What are the different types of validation? Write a note on validation master plan.
12. What are the sources of contamination and mix up in pharmaceutical manufacturing? How one can control this type of problems?
13. Explain good warehousing practices (GWP).

PART - C (7 X 5 = 35 Marks)

14. Explain the ICH guidelines for stability testing.
15. Describe the maintenance of stores for raw materials.
16. Explain the maintenance of sterile areas in pharma industry.
17. Explain the GLP protocol for the conduct of a nonclinical laboratory study.
18. Classify the complaints and write about the evaluation of complaints.
19. Define and explain the contents of batch formula record.
20. List the parameters for analytical method validation and explain any two in detail.
21. List and explain the different steps in the qualification of equipments.
22. Write a note on distribution records.

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Code No. D8176/PCI

FACULTY OF PHARMACY

B. Pharmacy VI Semester (PCI) (Backlog) Examination, February / March 2022

Subject: Medicinal Chemistry - III

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all questions: **(10 x 2 = 20 Marks)**

1. Define & classify β-lactam antibiotics?
2. Write the structure of Sulbactam & Monobactam?
3. Give the structure and uses of Neomycin?
4. Write the structure of Pyrazinamide & Isoniazid?
5. Write the structure and uses of Dapsone?
6. Define Partition coefficient, Tafts steric parameter?
7. Write the mechanism of action of Tetracyclines?
8. Write the mechanism of action of Macrolides?
9. Define prodrugs?
10. Write the structure and uses of Clindamycin?

PART - B

Note: Answer any two questions: **(2 x 10 = 20 Marks)**

11. Write the various classes of antitubercular drugs. Write the synthesis & mode of action of Para amino salicylic acid?
12. Write the life cycle of malaria parasite and Write the synthesis and mode of action of the Chloroquine?
13. Write the mode of action and SAR of Sulphonamides and Write the synthesis of Sulfacetamide?

PART - C

Note: Answer any seven questions: **(7 x 5 = 35 Marks)**

14. Write the chemical degradation of Pencillins?
15. Explain the mode of action, SAR and uses of Cephalosporins?
16. Give the structure, synthesis, mode of action and uses of Chloramphenicol?
17. Write a note of Prodrugs?
18. Give the various classes of Antifungal agents & write the synthesis of Miconazole?
19. Write the synthesis, mode of action and uses Diethylcarbamazine citrate?
20. Give a note on liquid phase synthesis in combinatorial chemistry?
21. Write the structure, synthesis and uses of Tolnaftate?
22. Give the various classes of Anti-protozoal agents & write the synthesis of Metronidazole?

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Code No: D-8177/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Backlog) Examination, February 2022

Subject: Pharmacology - III

Time: 3 Hours **Max. Marks: 75**

Note: Answer all questions from PART-A, and two questions from PART-B, and any seven questions from PART-C.

PART - A (10 x 2 = 20 Marks)

1) What is Circardian thythm?
2) What is carcinogenicity give examples of drugs causing it?
3) What is the treatment for morphine poisoning?
4) What are the adverse effects of tetracyclins.
5) Define laxative. Give examples.
6) What are expectorants? Give examples.
7) Write about appetite suppressant drugs.
8) What are mucolytics. Give examples.
9) What are the adverse effects of penicillins.
10) Define Digestant. Give two examples.

PART - B (2 x 10 = 20 Marks)

11) Write about antibiotics used in cancer.
12) Write about anti tubercular drugs.
13) Classify Antiulcer agents? Write the pharmacology of H_2 antagonists.

PART - C (7 x 5 = 35 Marks)

14) What is biological clock? With some examples explain chronotherapy.
15) Explain the pharmacology of Co-trimoxazole.
16) Write a note on symptoms and treatment of arsenic poisoning.
17) Write the pharmacology of any one class of antibiotics.
18) Write a note on Urinary antiseptics.
19) Classify antiamoebic agents. Add a note on Metronidazole.
20) Classify Anti-tussives. Add a note on Anti-histaminics.
21) Write a note on Bronchodilators.
22) What is an antiemetic? Classify antiemetics.

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Code No. D-8178/PCI

FACULTY OF PHARMACY

B. Pharmacy VI Semester (PCI) (BACKLOG) Examination,
February / March 2022

Subject: Herbal Drug Technology

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 Define herbal medicine and herbs.
2 Define bio pesticide bio insecticide.
3 Write the scope of Nutraceuticals.
4 Define herbal drug interaction with suitable examples.
5 Define herbal formulation with example.
6 Define Phytosomes and Microspheres.
7 Define Bio piracy and patent.
8 Write the constitution of ASU DTAB.
9 Write the scope and future prospectus of herbal drug industry.
10 Define schedule T and write objectives of schedule T.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Write an elaborate note on processing of herbal raw materials.

12 Explain in detail about the scope and type of Nutraceutical products available market.

13 Discuss WHO and ICH guidelines for the assessments of herbal drugs.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Explain the sources of herbs.

15 Write a brief note on organic farming.

16 Write a note on herb drug interactions with suitable exaples.

17 Explain about the side effects and interactions of Hypericum and Kava-Kava.

18 Write a brief note on flavours in herbal preparations.

19 Write a note on Phytosomes.

20 Explain in detail about Patent and IPR.

21 Give a brief note on Schedule Z.

22 Write a brief note on plant based industries and institutions.

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Code No: D-8179/PCI

FACULTY OF PHARMACY

B. Pharmacy VI– Semester (PCI) (Backlog) Examination, February / March 2022

Subject: Bio pharmaceutics and Pharmacokinetics

Time: 3 Hours **Max.Marks:75**

Note: Answer all questions from Part - A, Any two questions from Part - B. And any seven questions from Part - C

PART – A (10 x 2 = 20 Marks)

1. Write Noyes Whitney equation. And explain the terms.
2. Describe the absorption of a drug on rectal administration.
3. Define apparent volume of distribution.
4. Write a note on excretion of drugs through skin.
5. Define absolute bioavailability and relative bioavailability.
6. Define C_{max}, t_{max} and AUC?
7. If equatin of the curve is C=15.e-0.23t for a drug administered by IV route and following one compartment open model, then calculate its biological half – life.
8. Write Michaelis menten equation.
9. Describe hepatic clearance.
10. What are the factors for cause of non-linear kinetics?

PART – B (2x10 = 20 Marks)

11. A dose of 500mg of drug was given intravenously to a patient and following blood data was obtained. Assuming that the drug follows one compartment open model. Calculate all possible pharmacokinetic parameters.

Time (Hrs)	2	4	6	8	10	12	16	20
asma Concentration (μg/ml)	1.83	1.01	0.58	0.33	0.18	0.10	0.031	0.012

12. Describe factors influencing absorption of drugs.
13. Describe renal excretion of drugs.

PART – C (7 X 5 = 35Marks)

14. Discuss about pH-partition hypothesis.
15. Describe the absorption of drugs from extravascular routes.
16. Explain briefly about Kinetics of protein binding.
17. Explain biliary excretion of drugs.
18. Discuss about methods to enhance bioavailability of poorly soluble drugs.
19. Describe estimation of K_m and V_{max} in non-linear kinetics.
20. Derive kinetic parameters for IV bolus administration in Two compartment open model.
21. How do you determine absorption rate constant, Ka by Wagner nelson method?
22. A 650mg I.V. dose of a drug is administered to a 65kg subject, the plasma drug concentration was found to decline biexponentially. The equation that best describes.
    The drug kinetics $C=67.e^{-14t} + 33.e^{-3t}$; C is in mg/it Calculate the different volumes of distribution Vc, Vp, Dd_{β}, Vd_{area}, Vd_{ss}.

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Code No: 12285/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main &Backlog) Examination, September 2021

Subject: Medicinal Chemistry-III

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions from Part –A, Any one questions from Part-B and Any five questions from Part-C

PART – A (7X3 = 21 Marks)

1. Define & classify β - lactam antibiotics?
2. Write the structure of Benzly pencillin & Chlortetracycline?
3. Write the structure and uses of Strptomycin?
4. Write the structure of Isoniazid & Para amino salicylic acid?
5. Write the structure and uses of Dapsone?
6. Define Partition coefficient, Hammet's electronic parameter?
7. Write the mechanism of action of Tetracyline?
8. Write the mechanism of action of Macrolides?
9. Define prodrugs?
10. Write the β - Lactamase inhibitors?

PART- B (1 X 14 = 14 Marks)

11. Enumerate the various classes of antitubercular drugs. Write the synthesis & mode of action of Isoniazid?
12. Define Beta lactam antibiotics and explain the classification, SAR and mode faction of cephalosporins?
13. Write the life cycle of malaria parasite and Write the synthesis and mode of action of the Chloroquine?

PART - C (5 X 8 = 40 Marks)

14. Write the chemical degradation of pencillin?
15. Write the SAR and uses of Tetracycline?
16. Write the structure, synthesis, mode of action and uses of Chloramphenicol?
17. Write a note on Prodrugs?
18. Write the structure, synthesis, mode of action and uses of Nitrofurantion?
19. Write the mode of action and SAR of Sulphonamides?
20. Write a short note on combinatorial chemistry?
21. Write the structure, synthesis, mode of action and uses of Miconazole?
22. Write the structure, synthesis, mode of action and uses of Mebendazole?

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Code No. 12286 / PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main & Backlog) Examination, September 2021

Subject: Pharmacology - III

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7 x 3 = 21 Marks)

1 What are antiemetics?
2 What are nasal decongestants?
3 Differentiate between purgatives and laxatives.
4 Define the following terms
a. Circadian rhythm b. circannual rhythm
5 What are fluoroquinolones? Give examples.
6 Enumerate various antidotes available.
7 Define Chronotherapy and write its applications.
8 Write a note on appetite suppressants.
9 What are the cholinesterase reactivators? Give examples.
10 How do carminatives act?

PART- B (1 x 14 = 14 Marks)

11 Classify the agents used in treatment of peptic ulcer disease. Write about the pharmacological actions and therapeutic uses of Ranitidine and Omeprazole.
12 Write the MOA, adverse effects and therapeutic uses of Reverse transcriptase inhibitors and cisplastin.
13 Explain the cell cycle. What are fluoroquinolones? Explain their MOA, therapeutic uses and adverse effects.

PART- C (5 x 8 = 40 Marks)

14 Explain the MOA and adverse effects of aminoglycosides and penicillins.
15 Write short notes on the pharmacology of H_2 receptor blockers.
16 Discuss the symptoms and treatment of heavy metal poisoning.
17 Write a note on antimalarial drugs.
18 What are protein based drugs? Write short notes on them.
19 Write about urinary tract infections.
20 Classify antifungal drugs. Write the MOA and adverse effects of amphotericin.
21 Discuss the symptoms and treatment of barbiturate poisoning.
22 What are immunosuppressants? Classify them.

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Code No: 12287/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (Main & Backlog) Examination, September 2021

Subject: Herbal Drug Technology

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions from Part-A, any one question from Part-B and any five questions from Part-C.

Part – A (7 x 3 = 21 Marks)

1 Define “IPR” and “Bioprospecting”
2 Write about curcumin
3 Explain soxhlet extraction
4 Differentiate conventional and organic farming
5 Write about any two microbial pesticides
6 Write composition and functions of ASUDCC
7 What are churnas & bhasmasWrite about guar gum and saffron
8 Write the underlying principle of homeopathy
9 What are the methods for authentication of a herb

Part – B (1 x 14 = 14 Marks)

10 Write a detailed account of the guidelines for stability testing of herbal drugs.
11 Write a note on: (a) Vitamins as antioxidants (b) Schedule Z.
12 Write a short note on (a) Herbal drug industry (b) Traditional Knowledge

Part – C (5 x 8 = 40 Marks)

13 Write a note on the role of nutraceuticals in the prevention and management of cardiovascular diseases.
14 Write about pharmacokinetic herb drug interactions with examples.
16 Present an overview of good agricultural practices.
17 Write an account of plant based research institutes in India.
18 What is bio piracy? Discuss any three bio piracy cases in India.
19 Classify herbal excipients. Write in detail about naturally derived thickening agents.
20. Write the method of preparation and standardization of churnas.
21. Discuss various methods used for processing of herbal materials.
22. Write a note on omega fatty acids and resveratrol.

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Code No: 12288/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main & Backlog) Examination, September 2021Subject: Biopharmaceutics and Pharmacokinetics

Time: 2Hours **Max. Marks: 75**

Note: Answer any Seven Questions from Part –A, Any One Questionsfrom Part-B.and Any Five Questions from Part-C

PART – A (7X3 = 21 Marks)

1) Define biopharmaceutics
2) Mention factors affecting Ahsorption
3) Differentiate Passive transport and Active transports.
4) Define Absolute bioavailability and relative bioavailability.
5) List the factors affecting elimination of drugs.
6) Explain Flip-flop method in Extra vascular administration.
7) What is apparent volume of drug distribution
8) Write the equation for calculating steady state drug concentration for one compartment open model.
9) What is proties binding. How it affects bio availability 10)Expand the terms: i. AUC, ii. Vd iii. $t_{1/2}$ iv. Ka v. Kθ vi. CLR

Part - B (1 x 14 = 14 Marks)

11) Write about in-vitro drug dissolution models.
12) How do you estimate the pharmacokinetics parameters (K max and V max) by using Michaelis – Menton equation.
13) Discuss about factors influencing absorption of drug in GIT

Part - C (5 x 8 = 40 Marks)

14) Write a note on Carrier mediated transport.
15) Describe about the physiological barriers to the distribution of drugs. Any three.
16) Explain the biliary excretion of drugs.
17) Explain the various methods for assessment of bioavailability.
18. Discuss in-Vitro-in-Vivo correlation
19. Explain kinetics of protion binding
20. Write in detail about compartment models.
21) Write a note on non-linear pharmacokinetics.
22) Explain methods of adjustment of dose and dosage regimen in patients withhepatic failure

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Code No: 12289/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main & Backlog) Examination, September 2021

Subject: Pharmaceutical Biotechnology

Time: 2 Hours **Max. Marks: 75**

Note: Answer any Seven Questions from Part –A, Any One Questions from Part-B. and Any Five Questions from Part-C

PART – A (7X3 = 21 Marks)

1. Define the following:
   i) Biotechnology ii) Enzyme immobilization
2. Write the components of Biosensors
3. Write significance of enzyme acting on DNA
   i) Restriction end nucleases ii) S1 nuclease
4. Enumerate types of cloning vectors. Add a note on COSMID as vector
5. What is active immunity?
6. Write stability tests defined for official vaccines
7. Give applications involved in Southern blotting technique
8. How will you transfer gene by conjugation method
9. How to control foam during fermentation?
10. Mention six enzymesPART- B (1 X 14 = 14 Marks)
11. Give the principle of rDNA technology along with significance of enzymes. Enlist and explain various methods of screening the recombinants.
12. Define vaccine. Write the method of preparation and quality control of bacterial vaccine
13. Discuss production of Penicillin by fermentation process.

PART - C (5 X 8 = 40 Marks)

14. Enlist methods of immobilization of enzymes. Add a note on applications of enzyme Immobilization
15. Explain the applications of Biosensors
16. Write a brief account on production of insulin by rDNA technology
17. Differentiate between ‘type II Hypersensitivity’ the ‘type III Hypersensitivity’.
18. Give role of HAT medium in monoclonal antibody production
19. Write short notes on ELISA technique
20. Differentiate between prokaryote and Eukaryote
21. Describe components and working of fermentor
22. Write short note on vitamin B12 Production by fermentation

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Code No:12007/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Suppl.) Examination, March 2021

Subject : Medicinal Chemistry-III

Time: 2 Hours **Max. Marks: 75**

Note: Answer Any Seven Questions from Part –A, Any one Question from Part-B. and Any Five Questions from Part-C

PART – A (7 X 3 = 21 Marks)

1) Define &classify antibiotics?
2) Write the structure of Sulbactam & Monobactam?
3) Write the structure and uses of Strptomycin?
4) Write the structure of Chloroquine & Ethambutol?
5) Write the structure and uses of Dapsone?
6) Define Partition coefficient, Tafts steric parameter?
7) Write the mechanism of action of Aminoglycosides?
8) Write the mechanism of action of Macrolides?
9) Define prodrugs?
10) Write the mode of action of anti-fungal agents?

Part - B (1 x 14 = 14 Marks)

11) Write the various classes of antitubercular drugs. Write the synthesis & mode of action of Isoniazid?

12) Define Beta lactam antibiotics and explain the classification, SAR and mode faction of Pencillins?

13) Write the mode of action and SAR of Sulphonamides and Write the synthesis of Sulfamethoxaole?

Part - C (5x8 = 40 Marks)

14) Write the chemical degradation of Cephalosporins?
15) Write the SAR and uses of Tetracycline?
16) Write the structure, synthesis, mode of action and uses of Chloramphenicol?
17) Write a note on Prodrugs?
18) Write the structure, synthesis, mode of action and uses of Ciprofloxacin?
19) Write the structure, synthesis, mode of action and uses Trimethoprim?
20) Write a short note on combinatorial chemistry?
21) Write the structure, synthesis, mode of action and uses of Tolnaftate?
22) Write the structure, synthesis, mode of action and uses of Mebendazole?

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Code No: 12012/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Suppl.) Examination, March 2021

Subject : Quality Assurance

Time: 2 Hours **Max. Marks: 75**

Note: Answer Any Seven Questions from Part –A, Any one Question from Part-B. and Any Five Questions from Part-C

PART – A (7 X 3 = 21 Marks)

1 Define ISO 14000

2 Define Quality by design (QbD)

3 Define Quality Assurance.

4 Define GMP.

5 Explain out of trend (OOT)?

6 What is Warehousing? Explain.

7 Explain on out of specification.

8 What is Sources of impurities? Explain.

9 What is calibration. Why it should be bone for equipment

10 What is SOP.? Explain.

Part - B (1x 14 = 14 Marks)

11 Write briefly about Quality control test for secondary packing materials.

12 Define ICH. Explain about ICH Guidelines.

13 Write briefly about importance, scope of validation and types of validation.

Part - C (5x 8 = 40 Marks)

14 Describe SOP, Quality audit and Quality Review.

15 Write a short note on Total Quality Management (TQM)

16 List out what are the different analytical instrumentation used in the estimation of impurities.

17 Explain about validation master plan.

18 Explain about Personnel responsibilities, training, and hygiene

19 Write a short note on ISO 9000 series?

20 Explain about Equipment selection, purchase specifications and maintenance

21 Explain ISO certification procedure and its advantages?

22 Write briefly about Quality control test for containers.

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Code No: 12011/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Suppl.) Examination, March 2021

Subject : Pharmaceutical Biotechnology

Time: 2 Hours **Max. Marks: 75**

Note: Answer Any Seven Questions from Part –A, Any one Question from Part-B. and Any Five Questions from Part-C

PART – A (7 X 3 = 21 Marks)

1 What is biosensor? Write the main components used in biosensor.

2 What is genetic engineering?

3 Explain restriction endonucelases.

4 What are vectors? Write the ideal properties of vectors.

5 Write few applications of hybridoma technology.

6 What are toxins? Explain the method of conversion of toxin to toxoid.

7 Write the preparation and uses of human fibrinogen.

8 Write about types of aerators in Fermentor.

9 Write a brief note on plasmids.

10 Differentiate between prokaryotic and Eukaryotic organisms.

Part - B (1 x 14 = 14 Marks)

11 Discuss the structure and function of Major Histocompatability Complex.

12 Explain the typical structure of Immunoglobulin and types of Antibodies.

13 What are plasma substitutes? Explain the manufacturing of plasma substitutes and standardization.

Part - C (5x 8= 40 Marks)

14 Write a brief notes on Protein Engineering

15 Explain the steps involved in PCR.

16 Explain insertion and replacement vectors (Bacteriophage vector)

17 Discuss the general methods of preparation of vaccines.

18 Explain Southern blotting technique.

19 Explain generalized transduction and specialized transduction.

20 What are mutations? Explain the types of mutations.

21 Draw a neat labeled diagram of a typical fermentor.

22 Explain the aeration and agitation process in fermentation.

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Code No. 12010 / PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Suppl.) Examination, March 2021

Subject : Biopharmaceutics & Pharmacokinetics

Time : 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one questions from Part – B and any five question from Part – C.

PART – A (7x3=21 Marks)

1 Define Noyes and Whitney equation and its application.
2 What is Lipinskis rule of five?
3 Differentiate between plasma protein-drug binding and tissue drug binding.
4 Define Microconstants and Hybrid constants and write relationship between them.
5 What is Flip-Flop Phenomenon and how it is useful in method of residual?
6 What are the different methods used to calculate the AUC?
7 Define orange book and objectives of bioavailability studies.
8 Difference between Absolute bioavailability and Relative bioavailability.
9 Define Creatinine and how to calculate the Creatinine Clearance
10 If Vd of thiopental is 2000ml.Calculate the amount of drug in the body when plasma concentration is 2µg/ml.

PART- B (1x14=14 Marks)

11 Define absorption. Write in detail about mechanism of drug absorption with diagram.
12 Explain in detail about Bioequivalence study protocols.
13 Derive Michaelis-Menten equation and how do you estimate Km and Vmax.

PART- C (5x8=40 Marks)

14 Write in detail about pH partition hypothesis and its limitation.
15 Write about Gastric emptying rate and Volume of distribution.
16 Significance and kinetics of protein drug binding.
17 What are the factor causing Non-Linearity?
18 How do you calculate absorption rate constant, Ka by using Wagner Nelson method?
19 Explain the pharmacokinetic parameters of a drug which follows one compartment open model when given by intravenous bolus with relevant mathematical equations.
20 What are the different methods for Assessment of Bioavailability?
21 Explain various cross over designs in Bioequivalence studies.
22 A 60 kg male received 2mg/kg of a drug orally. The following plasma concentration vs time data is obtained. Assume the drug follows one compartment open model and it is completely absorbed. Calculate all possible pharmacokinetic parameters.

Time(hr)	1	2	3	4	5	6	8	10	12	14
Plasma Conc. (µg/ml)	3.2	7.3	9.1	9.7	9.7	9.2	7.1	5.3	4.0	3.0

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Code No: 12009/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Suppl.) Examination, March 2021

Subject : Herbal Drug Technology

Time: 2 Hours **Max. Marks: 75**

Note: Answer Any Seven Questions from Part –A, Any one Question from Part-B. and Any Five Questions from Part-C

PART – A (7 X 3 = 21 Marks)

1 What is Tridosha

2 What are Biopesticides

3 Define the term nutraceuticals

4 Write the health benefits of Amla.

5 What are advantages of Herbal Excipients.

6 Define the term Cosmetics.

7 Define the term patent and farmers right

8 What do you mean by evaluation of drugs?

9 List plant based government research institutes in India.

10 Write a note on Biopiracy.

Part - B (1x 14 = 14 Marks)

11 Briefly explain good agricultural practices in cultivation of medicinal plants.

12 What is traditional knowledge. Explain patenting aspects of Traditional knowledge and natural products.

13 Briefly explain the objectives and components of Schedule-T.

Part - C (5x 8 = 40 Marks)

14 List the Ayurvedic formulations and write the preparation of Bhasma.

15 Explain the principles of Siddha system of medicine.

16 Discuss the future prospects of Herbal drug industry.

17 Write a detailed account of case study of Neem and Curcuma.

18 Write the methods of stability testing of herbal drugs.

19 Write note on herbal binders and diluents.

20 Write the possible side effects and interactions of garlic and pepper.

21 Write the role of Honey and Alfa alfa as health food.

22 Write about pest management in medicinal plants.

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Code:6226/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main) Examination, December 2020
Subject: Quality Assurance

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any Seven questions. ***(7 x3=21 Marks)***

1. Define TQM
2. Give difference between Quality Assurance & Quality Control.
3. State the purpose of ICH.
4. Name Quality Control tests for glass containers.
5. Name different parameters of Analytical method validation.
6. Name any four responsibilities of Quality control people.
7. Mention classification of Recall.
8. What is qualification and validation .
9. Enlist the scope for validation.
10. Give the principles of NABL accreditation.

PART – B

Note: Answer One question. ***(1 x14=14 Marks)***

11. a) Define Quality by Design.
    b) Write in detail note on QbD.
12. Write a short note on plant layout with example.
13. Explain Good Warehousing practices.

PART - C

Note: Answer any Five questions. ***(5x8=40 Marks)***

14. Write in detail Equipment Validation.
15. Draw cause and effect diagram for tablet manufacturing process.
16. Write in detail parameters to be checked in Quality Audit.
17. Write short note on ISO 9000.
18. Explain in short Good Laboratory practices.
19. Explain steps involved in complain handling.
20. Explain the term “validation Master Plan”.
21. What is forced degradation stability study? Explain in short.
22. Write a note on Quality Management System.

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Code No: 6225/PCI

FACULTY OF PHARMACY

B.Pharmacy VI-Semester (PCI) (Main) Examination, November 2020

Subject : Pharmaceutical Biotechnology

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any Seven questions. ***(7 x3=21 Marks)***

1. Enlist applications of biotechnology to pharmaceutical industry.
2. Describe the terms biosensor and bioreactor.
3. Write significance of enzyme acting on DNA.
   i) Polymerase ii) Ligase
4. Describe the importance linkers and adapters.
5. What is toxoid. Give examples
6. What are plasma substitutes?
7. Define the following :
   i) Immunoblotting ii) Immuno suppression.
8. How will you transfer gene by transduction method?
9. Define fermentation.
10. Write six enzymes.

PART – B

Note: Answer One question. ***(1 x14=14 Marks)***

11. Explain benefits of recombinant DNA products. Write a detailed account on human insulin production by rDNA technology
12. What is Hybridoma technology? Explain the steps involved in the production of monoclonal antibodies and applications.
13. Describe Microbial biotransformation and its pharmaceutical applications.

PART - C

Note: Answer any Five questions. ***(5x8=40 Marks)***

14. Explain the concept of enzyme immobilization. Comment on its applicability with suitable examples.
15. Write short notes on production of amylase.
16. Write short notes on interferon production by rDNA technology.

…2

17. Write a short note on PCR.
18. Differentiate between humoral mediated immunity and cell mediated immunity.
19. Give an account of collection, processing & storage of whole human blood.
20. What is solthern blotting? Give details of southern blotting and application.
21. Enlist various criteria to be considered in designing of a fermentor, Draw a neat schematic labelled diagram of fermentor.
22. Write short notes on antibiotic production by fermentation with suitable example.

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Code No: 6221/PCI

FACULTY OF PHARMACY

B.Pharmacy VI-Semester (PCI) (Main) Examination, November 2020

Subject : Medicinal Chemistry - III

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer Seven Questions. **(7 X 3 = 21 Marks)**

1. Write the general synthesis of sulfonamides.
2. What are folate reductase inhibitors?
3. Give the mechanism of action of Trimethoprim.
4. Mention any six quinolone drugs.
5. What are Monobactams?
6. Classify antitubercular agents with examples.
7. Mention any six sulfonamide drugs
8. Mention any six antifungal agents
9. Mention any six antiviral drugs.
10. Mention any six antiprotozoal agents?

PART – B

Note: Answer One Question. **(1X14 = 14 Marks)**

11.a) Write a note on B-lactam antibiotics
b) Write a note on tetracyclines.

12.a) Write the classification of antifungal agents
b) Give the synthesis, mechanism of action and uses of any one antifungal drug.

13. a) Write a note on Tetracyclines.
b) Write a note on Anti-protozoal agents.

PART – C

Note: Answer Five Question. **(5X8 = 40 Marks)**

14. Discuss the SAR of semi-synthetic Penicillins.
15. What are prodrugs? Write the classification of Prodrugs based on functional groups.
16. Write the synthesis and mechanism of any two sulfa drugs.
17. Give a note on Artemisinin derivatives.

…2

18. Write the synthesis, mode of action and therapeutic uses of Isoniazid and Para amino salicylic acid
19. Write a note on Anti-HIV drugs.
20. Write the synthesis and mechanism of Diethylcarbamazine citrate and Metronidazole.
21. Write about Quinoline antibiotics.
22. What are β– lactam antibiotics? Write their mechanism of action.

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Code No: 6224/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main) Examination, November 2020

Subject : Biopharmaceutics and Pharmacokinetics

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer Seven Questions. **(7 X 3 = 21 Marks)**

1) Mention the factors effecting elimination of drugs
2) List the factors influencing absorption of drugs through GIT
3) Differentiate tissue binding and protein binding.
4) Write the markers used in renal clearance.
5) Define Bioavailability.
6) Expand the terms $i.A \cup C$ ii. $t_{\frac{1}{2}}$, iii. Vd iv. IV v. Ka vi. E_E
7) What is $t_{\frac{1}{2}}$ what is its importance
8) Write the equation for calculating loading dose.
9) What is apparent volume of distribution and its importance
10) What are the factors for cause of non-linear kinetics.

PART – B

Note: Answer One Question. **(1X14 = 14 Marks)**

11) Write about in - vitro drug dissolution models
12) Derive mathematical equations used to calculate Pharmaco-Kinetic parameters following IV bolus administration blood data, assuming that the drug follows two compartment open model.
13) Discuss about protein binding and various factors affecting drug-protein binding.

PART – C

Note: Answer Five Question. **(5X8 = 40 Marks)**

14) Discuss the mechanism of Active diffusion in absorption of drugs.
15) How the organ size and perfusion rate influence the drug distribution?
16) Explain briefly about Kinetics of protein binding.

17) Explain factors affecting the renal excretion of drugs.

18) Discuss about *in vitro-in vivo* correlations

19) A drug has a volume of distribution of 12Lts and elimination rate constant of 0.18hr^{-1} A steady state concentration of 12μg/ml is desred. Assuming one compartment kinetics, calculate time required to reach 99% of Css and infusion rate to achieve desired steady state.

20) Write the significance of different volumes of distribution in two compartment model.

21) Write a note on non-linear pharmacokinetics and Michaelis Mention equation.

22) How do you determine absorption rate constant, Ka by Wagner nelson method.

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Code No:6223/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main) Examination, November 2020

Subject : Herbal Drug Technology

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer Seven Questions. **(7 X 3 = 21 Marks)**

1) What is Organic farming.
2) Define the term Herbal medicine as per WHO.
3) Mention any six names of Aycervedic preparations (formulations)
4) What is significance of Herbal excipients
5) Write the health benefits of herbal medicines.
6) Define the term Nutraceuticals
7) List the parameters for evaluation of herbal tablets.
8) Define the term patent and IPR.
9) What is schedule T
10) What are antioxidants and give examples.

PART – B

Note: Answer One Question. **(1X14 = 14 Marks)**

11) Briefly explain the objectives and components of Schedule-T
12) List the Ayurvedic formulations and write the preparation of any three.
13) Explain the WHO guidelines for the assessment of herbal drugs.

PART – C

Note: Answer Five Question. **(5X8 = 40 Marks)**

14) How will you perform selection and identification of herbal materials?
15) Briefly explain the principles of Homeopathic system of Medicine.
16) Write a note on Functional foods and Dietary supplements.
17) Give informative note on Health benefits of nutraceuticals in management of diabetes.
18) What are excipients and give its classification with examples.
19) What are phytosomes? Give its method of preparation.
20) Give a detailed account of case study of neem and curcumin.
21) Explain the objectives and functions of ASU and DCC.
22) Give an informative note on future prospects of herbal drug industry.

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Code No: 6222/PCI

FACULTY OF PHARMACY

B. Pharmacy VI-Semester (PCI) (Main) Examination, November 2020
Subject : Pharamacology - III

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer Seven Questions. **(7 X 3 = 21 Marks)**

1) What is asthma. Give four examples of drugs used in Asthma
2) What is ulcer. Give four examples of drugs used in ulcer.
3) What is the treatment for organophosphorus poisoning?
4) What is teratogenicity and give examples of drugs causing teratogenic effects.
5) Define Chronopharmacology.
6) What are the uses of sulfa drugs mention any four sulfa drugs.
7) What is amoebiasis Give any four examples of drugs.
8) What is BCG? What for it is used
9) Give two examples for Bronchiodilators and explain how they work?
10) Define Expectorant. Give two examples.

PART – B

Note: Answer One Question. **(1X14 = 14 Marks)**

11) Classify anticancer agents. Add a note on antimetabolites.
12) Write the symptoms and management of Heavy metal poisoning.
13) Explain the pharmacological role of H_1 and H_2 antihistaminics.

PART – C

Note: Answer Five Question. **(5X8 = 40 Marks)**

14) Write a note on sulfanamides.
15) Explain about Proton pump Inhibitors.
16) Write a note on Immunosuppressant's.
17) Explain the chemotherapy of Anti-TB drug.
18) Write a note on Penicillins.
19) Write a note on ant tubercular agents.
20) Write a note on antimalarial drugs.
21) Write the pharmacology of respirations stimulants
22) What are the different types of rhythms. Explain about circardian rhythm with example.