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.

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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.

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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 desired. 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 examples.


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