

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, October 2024

Subject: Quality Assurance

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the term TQM.
2. What is QbD?
3. Mention different records in a Pharmaceutical Industry.
4. List out the contents of a purchase specification.
5. Name different secondary packing materials.
6. Mention the equipment in quality control laboratory.
7. Write different methods to give a complaint to an industry.
8. What is SOP?
9. Why calibration of instruments is required?
10. Give types of validation.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain principles and procedure involved in NABL accreditation.
12. Discuss about different aspects of premises for a pharmaceutical company.
13. Discuss about all provisions of GLP in brief.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write short notes on QA
15. Explain the steps for ISO9000 registration.
16. Write a note on personnel responsibilities in QA department.
17. Discuss quality control of secondary packing material
18. How a complaint is evaluated in Pharmaceutical Industry?
19. Explain the contents of a master formula record.
20. Explain calibration of p^H meter.
21. Discuss on general principles of analytical method validation.
22. Give informative notes on warehousing practices.

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, September 2024

Subject: Medicinal Chemistry-III

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write the mechanism of action of Pencillins.
2. Write the MOA and uses of Streptomycin & Sulbactam.
3. Give the MOA and uses of Erythromycin.
4. Write the structure and uses of Chloroquine.
5. Write the structure and uses of Isoniazid.
6. Give the MOA and uses of chloramphenicol.
7. Write the structure and uses of Trimithoprim.
8. Give the MOA and uses of Fluconazole.
9. Define combinatorial chemistry.
10. Define Partition coefficient and Hammet's electronic parameter.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Define Beta lactam antibiotics and explain the classification, SAR and chemical degradation of Cephalosporins?
12. Write the chemical classification of antitubercular agents. Write the synthesis, mode of action and uses of Para amino salicylic acid?
13. Explain mechanism 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. Give the structure, SAR and epimerization of Tetracyclines.
16. Write the structure, synthesis and uses of Pamaquine.
17. Give a note on Prodrugs?
18. Explain the structure, synthesis and uses of Tolnaftate?
19. Write the structure, synthesis and uses of Dapsone?
20. Write a note on SAR of Quinolines?
21. Write the structure, synthesis and uses of Metronidazole?
22. Give the structure, synthesis and uses of Mebendazole?

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, September 2024

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 nasal decongestants?
3. Define and classify purgatives.
4. What is ulcer and explain the mechanism of action of proton pump inhibitors?
5. Explain the mechanism of action and adverse effects of penicillin's.
6. What is amoebiasis and mention any four drugs used in the treatment of amoebiasis?
7. What are the causative organisms of syphilis and gonorrhoea?
8. What is teratogenicity and give examples of drugs causing teratogenic effects?
9. Write the applications of biosimilars.
10. Define Chronotherapy and write its applications.

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

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

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write the pharmacology of respiration stimulants.
15. Write short notes on the pharmacology of H₂ receptor blockers.
16. What is clotrimoxazole and mention advantages?
17. Write the classification of anti-tubercular agents and write MOA and adverse effects of Isoniazid.
18. Classify antifungal agents and write the MOA and adverse effects of amphotericin B.
19. Write about the treatment for Urinary tract infections.
20. What are immunosuppressants? Classify them.
21. Define toxicology and explain the types of toxicity studies.
22. What are the different types of rhythms? Explain about circadian rhythm with examples.

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, September 2024

Subject: Herbal Drug Technology

Time: 3 Hours

Max. Marks: 75

PART – A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the terms 'patent' and 'IPR'.
2. What are bio pesticides? Write their advantages?
3. Define excipients. Write about any two diluents used in herbal formulations.
4. What are the principles of the siddha system of medicine?
5. What are the various sources of herbs?
6. Write features of asavas and lehyas.
7. Ashwagandha is a health food. Justify.
8. List the plant-based research institutes in India.
9. Give any three marketed herbal nutraceuticals useful in management of diabetes.
10. Write drug interactions of spirulina.

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write about stability testing of herbal drugs.
12. Describe the good agricultural practices in the cultivation of medicinal plants.
13. Describe the components of Good Manufacturing Practices (Schedule-T) for Indian system of medicine.

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on selection and authentication of herbs.
15. Give the preparation and standardization of ghutika/vati.
16. Give an overview of any three plant based industries.
17. Write in detail about pest management methods.
18. Write the present scope and future prospects of herbal drug industry.
19. Describe the herb-drug interactions of pepper and garlic.
20. What are Phytosomes? Write the preparation and applications of phytosomes.
21. Elaborate on the herbal materials used in formulation of oral hygiene products.
22. Give a detailed account of patenting issues of neem.

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FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, October 2024

Subject: Pharmaceutical Biotechnology

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define vaccines. Mention the differences between attenuated and killed vaccines.
2. What are nucleases? Explain the type of nucleases.
3. Write a note on transposons.
4. Define mutants and write a brief note on mutants.
5. What are foam controlling materials?
6. What are toxins? Explain the method of conversion of toxin to toxoid.
7. What are vectors? Write the ideal properties of vectors.
8. Differentiate between prokaryotic and eukaryotic organisms.
9. Write the preparation and uses of human fibrinogen.
10. Enlist applications of biotechnology to pharmaceutical industry.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What is Hybridoma technology? Explain the steps involved in the production of monoclonal antibodies and applications.
12. Explain the typical structure of Immunoglobulin with neat labelled diagram and add a note on types and functions of Antibodies.
13. Explain the production of insulin by rDNA technology.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the stability of official vaccines.
15. Explain the collection, processing and storage of whole human blood.
16. Describe fermenter with a neat labelled diagram.
17. Write in detail about enzyme linked immunosorbent assay.
18. Explain type I and type II hypersensitivity reactions.
19. Write the applications of genetic Engineering in medicine.
20. Explain pBR322 and pUC vectors.
21. Discuss about PCR.
22. Describe protein engineering.

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Main & Backlog) Examination, October 2024

Subject: Biopharmaceutics and Pharmacokinetics

Time: 3 Hours

Max. Marks: 75

PART - A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define apparent volume of distribution.
2. Mention factors affecting the absorption.
3. Differentiate Passive transport and Active transports.
4. Define Absolute bioavailability and relative bioavailability.
5. Write a note on excretion of drugs through skin.
6. Write a note on enterohepatic circulation.
7. Define C_{max} , t_{max} and AUC.
8. Write the equation for calculating steady state drug concentration for one compartment open model.
9. What is protein binding? How it affects bio availability
10. What are the factors for cause of non-linear kinetics?

PART - B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Write methods to enhance the dissolution rates and bioavailability of poorly soluble drugs.
12. Derive Michaelis - Menten equation and estimate K_m and V_{max} .
13. Discuss about factors influencing absorption of drug in GIT.

PART - C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write a note on factors influencing absorption of drugs.
15. Describe about the physiological barriers to the distribution of drugs.
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 Phase-II metabolic pathways of metabolism.
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 with renal and hepatic failure.

FACULTY OF PHARMACY
B. Pharmacy VI - Semester (PCI) (Backlog) Examination, April 2024
Subject: Quality Assurance

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the term quality assurance.
2. Mention different ICH guidelines.
3. Give the list of different designations of personnel in QA department.
4. List out the contents of a purchase specification.
5. Name different secondary packing materials.
6. What are the benefits of NABL accreditation?
7. Write different methods to give a complaint to an industry.
8. What is quality audit?
9. Write the significance of calibration.
10. Mention different distribution records?

PART-B

Note: Answer any two questions

(2 x 10 = 20 Marks)

11. Explain total quality management system (TQM) in detail.
12. Discuss about different aspects of premises for a pharmaceutical company.
13. What is validation? Write its significance and explain different types of validation in brief.

PART-C

Note: Answer any seven questions

(7 x 5 = 35 Marks)

14. Write short notes on QbD.
15. Explain the steps for ISO9000 registration.
16. Discuss quality control of rubber closures.
17. Write notes on general provisions required to maintain GLP.
18. What is SOP? Write the general contents of an SOP.
19. Explain recalling procedure for a pharmaceutical product.
20. Write calibration of pH meter.
21. Discuss on qualification of UV-Visible spectrophotometer.
22. Give informative notes on warehousing practices.

FACULTY OF PHARMACY
B. Pharmacy VI - Semester (PCI) (Backlog) Examination, April 2024
Subject: Herbal Drug Technology

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Give the composition and functions of ASU DTAB.
2. What is Biopiracy and give its disadvantages.
3. Define Excipients and give ideal properties of excipients.
4. Give the principles of Siddha system of medicine.
5. List the principles of Homeopathy system of medicine.
6. Define the terms Herbal medicine and Traditional medicine.
7. What are Biopesticides and give their advantages.
8. Give the health benefits of Ashwagandha
9. List the plant based research Institutes.
10. What are colorants and list the herbal colorants.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Define the evaluation of drugs. Describe the WHO guidelines for evaluation of drugs.
12. Describe the good agricultural practices in cultivation of medicinal plants.
13. Describe the components of Good Manufacturing Practices (Schedule-T).

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write note on selection and authentication of herbs.
15. Give the preparation of Aristas and Asawas.
16. What are Nutraceuticals? Give the classification and scope of Nutraceuticals.
17. Write the health benefits of Spirulina and Alfaalfa.
18. Define patent. Write the criteria, objective and advantages of patent.
19. Describe the herb- drug interactions of Pepper and Garlic.
20. What are Phytosomes. Write the preparation and applications of phytosomes.
21. Write the importance and methods of stability testing of herbal drugs.
22. List the hair care products. Write the importance of raw materials used in Hair care products.

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Backlog) Examination, March 2024

Subject: Pharmacology-III

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define the terms malignancy and poison.
2. What are decongestants and anti tussives? Give examples.
3. Give the adverse drug reactions of Aminoglycosides.
4. What is teratogenicity? Give examples.
5. Differentiate between narrow spectrum and broad spectrum antibiotics with examples.
6. Write the uses of Laxatives.
7. Write the mechanism of monoclonal antibodies.
8. What is HAART?
9. Write the mechanism of action of Methylxanthines.
10. What is genotoxicity?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Classify anti cancer drugs with examples. Write the mechanism, pharmacokinetics, uses and adverse drug reactions of antimetabolites.
12. Write the general principle measures of treatment of poisoning and explain organophosphorus poisoning.
13. Classify anti viral drugs with examples. Write the mechanism of action, Pharmacokinetics, adverse drug reactions and uses of NRTI's.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Classify anti asthmatics with examples. Write a detail note on bronchodilators in the treatment of asthma.
15. Classify anti leprotic drugs with examples and explain pharmacology of dapson.
16. Write in brief about the circadian rhythm and its impact on pharmacological therapy with examples.
17. Briefly write about acute, sub acute and chronic toxicity studies.
18. Classify anti tussives with examples. Write their mechanism and uses.
19. Write the mechanisms of antibiotic resistance development.
20. Classify anti-fungal drugs with examples. Write about azoles.
21. What are alkylating agents? Classify them. Write mechanism and Adverse drug reaction of them.
22. Briefly write about the role of Calcineurin inhibitors as immuno suppressants

FACULTY OF PHARMACY
B. Pharmacy VI - Semester (PCI) (Backlog) Examination, April 2024
Subject: Pharmaceutical Biotechnology

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Write a brief note on plasmids.
2. Explain restriction endonucleases.
3. Write about types of aerators in Fermenter.
4. Mention the applications of Hybridoma technology.
5. What are vectors? Write the ideal properties of vectors.
6. Describe the importance of linkers and adapters.
7. Differentiate between exotoxins and endotoxins.
8. What are the organisms responsible for the production of amylases and lipases?
9. Write a note on DNA ligase.
10. What is genetic engineering?

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. What are plasma substitutes? Discuss in detail about the preparation of dextran.
12. Discuss the production of Penicillin by fermentation process.
13. Discuss the structure and function of Major Histocompatibility Complex.

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Explain the southern blotting technique.
15. Explain the preparation of dried human plasma and dried human serum.
16. Differentiate between 'type II Hypersensitivity' and 'type III Hypersensitivity' reactions.
17. Write short note on vitamin B12 Production by fermentation.
18. What are mutations? Explain the types of mutations.
19. Write about IgG and IgE antibodies.
20. Describe the process of transduction.
21. Discuss the applications of biosensors.
22. Explain protein engineering.

FACULTY OF PHARMACY
B. Pharmacy VI - Semester (PCI) (Backlog) Examination, April 2024
Subject: Biopharmaceutics and Pharmacokinetics

Time: 3 Hours

Max. Marks: 75

PART-A

Note: Answer all the questions.

(10 x 2 = 20 Marks)

1. Define absorption.
2. Define Noyes and Whitney equation and its application.
3. What is plasma protein-drug binding and tissue drug binding.
4. Define bioavailability.
5. Write a note on Volume of distribution.
6. What are the different methods used to calculate the AUC?
7. Write the objectives of bioavailability studies.
8. Define Absolute bioavailability and Relative bioavailability.
9. Write a note on steady state.
10. Describe hepatic clearance.

PART-B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Explain mechanisms of drug absorption with diagram.
12. Describe Bioequivalence study protocols.
13. Derive Michaelis - Menten equation and estimate K_m and V_{max} .

PART-C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Write in detail about pH partition hypothesis and its limitation.
15. Explain Phase-I reactions of metabolism.
16. Write the factors and significance of protein drug binding.
17. Describe about physiological barriers to the distribution of drugs.
18. Describe renal excretion of drugs.
19. Write the factors causing Non-Linearity.
20. Write methods to enhance the bioavailability of poorly soluble drugs.
21. Write different methods for Assessment of Bioavailability.
22. Explain methods of adjustment of dose and dosage regimen in patients with hepatic failure.

FACULTY OF PHARMACY

B. Pharmacy VI - Semester (PCI) (Backlog) Examination, March 2024

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 MOA and uses of Ampicillin & Tetracycline?
3. Give the structure and uses of Mefloquine?
4. Write the MOA and uses of Clindamycin & Azithromycin?
5. Write the structure of Ethambutol & Ciprofloxacin?
6. Give the structure and uses of para amino salicylic acid.
7. What are folate reductase inhibitors?
8. Give the structure and uses of Mebendazole?
9. Write the applications of prodrugs?
10. Define Taft's steric parameter and Hammett's electronic parameter?

PART – B

Note: Answer any two questions.

(2 x 10 = 20 Marks)

11. Define Beta lactam antibiotics and explain the classification, SAR and chemical degradation of Penicillins?
12. Give the chemical classification of antiviral drugs. Write the synthesis, mode of action and uses of any one antiviral drug.
13. Write the chemical classification of antifungal agents. Write the synthesis, mode of action and uses of Miconazole?

PART – C

Note: Answer any seven questions.

(7 x 5 = 35 Marks)

14. Classify Beta lactam antibiotics with examples?
15. Write the structure, SAR and uses of Tetracyclines?
16. Write the structure, synthesis, mode of action and uses of Chloramphenicol?
17. Give a short note on Prodrugs?
18. Explain the structure, synthesis and uses of Chloroquine?
19. Write the structure, synthesis and uses of Dapsone?
20. Give the concept and applications of combinatorial chemistry?
21. Write the structure, synthesis and uses of Sulfmethoxazole?
22. Give the structure, synthesis and uses of Isoniazid?