Code No. G-13091/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV - Semester (Backlog) Examination, March 2025

Subject: Medicinal Chemistry-I

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

PART - A

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

1. Define hydrogen bonding and how it effect drug action.
2. Define partition coefficient and give its significance.
3. Classify cholinergic receptors and their distribution.
4. Differentiate benzodiazepines and Barbiturates.
5. Define parasympathomimetics and write two structural examples.
6. Classify adrenergic receptors and write their distribution.
7. Write the structure and action of Pralidoxime.
8. Classify general anaesthetics and write two structural examples.
9. Give the structures and uses any two analogues of Alpha-adrenergic agonists.
10. Give the synthetic route of Halothane.

PART - B

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

11. What is biotransformation? Explain about principles of drug metabolism including phase I and phase-II pathways.
12. Write the classification, Mechanism of Action, structure activity relationship of Antipsychotics with examples.
13. Write the synthesis Mechanism of Action and uses of a) Ketamine hydrochloride b) Methadone hydrochloride c) Ibuprofen d) Fentanyl Citrate.

PART - C

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

14. Explain the factors affecting drug metabolism including stereo chemical aspects.
15. Discuss the mechanism of action and SAR of Barbiturates with suitable examples.
16. Describe geometrical isomerism in relation to biological activity.
17. Explain Bioisosterism, its types and their role in drug discovery with suitable examples.
18. Write the synthesis and uses of Carbachol and Ipratropium bromide.
19. Write the synthesis and MOA of Chlorpromazine & Dicyclomine.
20. Classify Sedatives and write SAR of Barbiturates.
21. What are Narcotic agonists and antagonists? Explain SAR of Morphine analogues.
22. Give the structure, Mechanism of Action and uses of (i) Meperidine Hydrochloridel (ii) Valproic acid.

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Code No: G-13094/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV - Semester (Backlog) Examination, March 2025

Subject: Pharmacognosy & Phytochemistry-I

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

PART - A

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

1. Define glycosides. Write any two identification tests for glycosides
2. What are auxins? Write their applications
3. Differentiate organized and unorganized crude drugs with examples
4. Write the source and uses of Chaulmoogra oil
5. What are flavonoids? Write their identification tests
6. Define adulteration with two examples
7. Write sources and uses of Papain and Serratiopeptidase.
8. What is hybridisation and write its application in cultivation of medicinal plants
9. Define 'Yin' and 'Yang' concepts of Chinese system of medicine.
10. What are 'bio fertilizers'? Write about any two biofertilizers

PART - B

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

11. What is drug evaluation? Explain about chemical evaluation of crude drugs.

12. (a) Write a note on gelatin.
    (b) Discuss the methods adopted for the conservation of medicinal and aromatic plants.

13. Write the applications of Plant Tissue Culture.

PART - C

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

14. Write the advantages & disadvantages of cultivation of medicinal plants.
15. Define and classify Alkaloids. Write their identification tests.
16. Write the souce, chemical constituents and uses of Bees wax and castor oil.
17. Write a note on Lycopodium Spore method.
18. Define Volatile oils and Tannins. Classify them by giving examples.
19. Write about chemical classification of crude drugs.
20. Explain the influence of living and non- living factors in storage of crude drug.
21. Write a note on edible vaccines.
22. Explain the role of pharmacognosy in ayurvedic system of medicine.

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Code No. G-13093/PCI

FACULTY OF PHARMACY

B. Pharmacy (PIC) IV - Semester (Backlog) Examination, March 2025

Subject: Pharmacology - I

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

PART – A

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

1. Define Bioavailability. Why the bioavailability of drugs is lower after oral administration.
2. Define prodrug. Give the examples of prodrugs.
3. Define plasma half life. Mention its significance.
4. Mention the uses of pre-anesthetic medication.
5. What is vasomotor reversal of Dale?
6. Enlist the drugs used in glaucoma.
7. What is dose response relationship? What are its advantages?
8. Name inhibitory neurotransmitters present in CNS.
9. What is drug tolerance? Give examples.
10. Mention the therapeutic uses and adverse reactions of benzodiazepines.

PART – B

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

11. a) Write the pharmacological actions of acetylcholine.
    b) Explain the various therapeutic uses and adverse reactions of parasympatholytics.
12. Define Parkinsonism. Classify anti-Parkinson's drugs with examples.
    Write the mechanism of action and therapeutic uses of peripheral decarboxylase inhibitors.
13. Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.

PART – C

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

14. Explain in detail about phase-I biotransformation of drugs with examples.
15. Describe the three major effector pathways through which G-protein coupled receptors function.
16. Discuss about pharmacokinetic drug interactions with suitable examples.
17. Mention the mechanism of action and uses of local anesthetic agents.
18. Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and therapeutic uses of curare alkaloids.
19. Write the pharmacological actions of alcohol.
20. Write a note on various phases of clinical trials.
21. Write about the mechanism and stages of general anesthesia.
22. Discuss in detail the pharmacological actions of morphine.

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Code No. G-13092/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, March 2025

Subject: Physical Pharmaceutics-II

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

PART – A

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

1. Classify colloidal dispersions.
2. What is Zeta potential? Write its importance.
3. Mention the factors influencing viscosity.
4. What is compression and consolidation?
5. List the steps involved in preparation of suspension?
6. What is molarity of reaction?
7. What is phase inversion?
8. Differentiate plastic and elastic behavior of solids?
9. Define angle of repose and mention its significance.
10. What is Hydrolysis and how to prevent it?

PART - B

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

11. Explain various methods of determining viscosity.
12. Describe the theories of emulsification and methods to enhance stability of emulsions.
13. Explain derived properties of powder and different methods of determining particle size distribution.

PART - C

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

14. Explain Kinetic properties of colloids.
15. What are Newtonian systems and explain the concept of dilatant flow with its significance.
16. Explain DLVO theory and mention its significance for making disperse systems.
17. Describe factors influencing settling in suspension.
18. Write the construction and working of coulter counter.
19. Differentiate between flocculated and deflocculated suspensions.
20. Describe drug stabilization from oxidation and photolysis.
21. Compare specific and general acid base catalysis in drug degradation.
22. The initial drug dose is 200 mg. Its concentration is reduced to 190 mg in 24 months. Calculate the zero order constant, half-life and shelf life in years.

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Code No: F-7332/PCI

FACULTY OF PHARMACY

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

Subject: Pharmacology - I

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

PART – A

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

1. What is dose response relationship? What are its advantages?
2. Define Bioavailability. Why the bioavailability of drugs is lower after oral administration.
3. Discuss the concept of first pass metabolism with examples.
4. Enlist the drugs used in glaucoma.
5. What is vasomotor reversal of Dale?
6. Define plasma half life. Mention its significance.
7. Mention the uses of pre-anesthetic medication.
8. Name excitatory neurotransmitters present in CNS.
9. Mention the therapeutic uses and adverse reactions of benzodiazepines.
10. What is drug addiction? Give examples.

PART – B

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

11. What is Alzheimer's disease? Classify drugs used in Alzheimer's disease and explain the mechanism of action, adverse effects and therapeutic uses of cholinergic activators.
12. Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.
13. (a) Write the pharmacological actions of adrenaline.
    (b) Explain the various therapeutic uses and adverse reactions of β-adrenergic blockers.

PART – C

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

14. Describe the three major effector pathways through which G-protein coupled receptors function.
15. Discuss about pharmacokinetic drug interactions with suitable examples.
16. Explain in detail about phase-I biotransformation of drugs with examples.
17. Write the pharmacological actions of alcohol.
18. Mention the mechanism of action and uses of local anesthetic agents.
19. Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and therapeutic uses of curare alkaloids.
20. Write about the mechanism and stages of general anesthesia.
21. Discuss in detail the pharmacological actions of morphine.
22. Classify antiParkinson's drugs with examples. Write the mechanism of action and adverse effects of dopamine precursor.

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Code No: F-7331/PCI

FACULTY OF PHARMACY

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

Subject: Physical Pharmaceutics-II

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

PART - A

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

1. Classify Disperse systems.
2. What is Nernst potential?
3. Define Newton's law.
4. What are Non-Newtonian systems?
5. What is sedimentation volume and degree of flocculation?
6. Differentiate micro emulsion and multiple emulsions.
7. What is angle of repose and mention its significance.
8. Write any three applications of micrometrics.
9. List the physical factors affecting degradation of drug product.
10. How do you determine order of a reaction?

PART - B

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

11. Explain Accelerated stability studies and determination of expiry date.
12. Describe formulation of flocculated and deflocculated suspensions.
13. Explain different viscometers used in determination of viscosity. Their benefits and limitations.

PART - C

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

14. Explain the effect of electrolytes on colloid dispersions.
15. Write the optical properties of colloid.
16. Describe the significance of Heckel equation.
17. Explain Plastic, Pseudoplastic and Dilatant flow with examples.
18. Write a note on theories of emulsification.
19. Write a note on packing arrangements and densities.
20. Explain methods for determining surface area of particle.
21. Explain decomposition by Hydrolysis and how do you prevent it.
22. Describe the factors affecting stability of drug product.

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Code No: F-7330/PCI

FACULTY OF PHARMACY

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

Subject: Medicinal Chemistry - I

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

PART – A

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

1. Define hydrogen bonding and its effect on biological activity of drugs.
2. What is Chelation and write its significance?
3. Write biosynthesis of Catecholamines.
4. Give the structures and uses any two analogues of Beta-adrenergic blockers.
5. Explain the effect of solubility in relation to biological action of drug.
6. Define anti-inflammatory Drugs and give two examples with structures.
7. Give the structure and uses of haloperidol.
8. O-Salicylic acid is more active than p-hydroxybenzoicacid. Why?
9. Define inhalation anaesthetics with examples.
10. Give the structure and uses for Fentanyl citrate and Diclofenac.

PART – B

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

11. Define and give the significance of the following physicochemical parameters on biological activity (a) Ionization (b) Optical Isomerism (c) Protein binding
12. (a) Classify parasympathomimetics with examples.
    (b) Write SAR and MOA of barbiturates.
13. Write the synthesis, Mechanism of action and uses of
    (a) chlorpromazine hydrochloride (b) Procylidine (c) Methadone (d) Mefenamic acid

PART – C

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

14. Explain the significance and determination methods of partition coefficient.
15. Write the importance of Bio -isosterism in drug design.
16. Write the SAR and mechanism of action of Morphine analogues.
17. Explain in detail about SAR of Benzodiazepines.
18. Give the synthesis and uses of Neostigmine and Carbamazepine.
19. Write a short note on Phenothiazines.
20. Explain the role of cytochrome P 450 enzyme in drug Metabolism.
21. Give the synthesis and MOA of Phenytoin and Dicyclomine hydrochloride.
22. Give the structure, Mechanism of action and uses of (a) Ibuprofen (b) Paracetamol.

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Code No: F-7329/PCI

FACULTY OF PHARMACY

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

Subject: Pharmaceutical Organic Chemistry-III

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

PART - A

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

1. Why Pyridine is more basic than Pyrrole.
2. What is optical activity and give its significances.
3. Give any two applications of Lithium Aluminium hydride.
4. Draw the structures and uses of Pyrazole and Pyrimidine.
5. Define Birch reduction and give the example.
6. Mention any two reactions of Thiophene.
7. Write the structures and medicinal uses of Isoxazole and Thiazole.
8. What is the reason for electrophilic substitution at 2nd position in Pyrrole.
9. Draw the structures of Acridine and Indole.
10. Draw the structure and medicinal uses of Purine.

PART - B

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

11. Explain the mechanisms and applications of following reactions.
    (a) Beckmann reaarangement (b) Oppenauer oxidation.
12. Write any three synthesis, reactions and medicinal uses of Pyrazole and Oxazole.
13. Define racemic mixture. Explain the various methods of resolution of racemic mixture.

PART - C

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

14. Write the mechanism involved in Wolf -kishner rearrangement.
15. Write any three reactions and uses of Acridine.
16. Outline the method of preparation of Quinoline and Isoquinoline.
17. Compare and contrast the acidity of Pyridine and basicity of Pyridine.
18. Explain the relative aromaticity and reactivity of Pyrole, Furan and Thiophene.
19. Explain Fisher Indole synthesis.
20. Write a note on Atropisomerism.
21. Describe the mechanism of Clemmenson reduction and mention its applications.
22. Explain stereospecific and Stereoselective reactions with examples.

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Code No: F-7333/PCI

FACULTY OF PHARMACY

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

Subject: Pharmacognosy & Phytochemistry-I

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

PART - A

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

1. What are gums and mucilages give examples
2. Write the basic concept of ayurveda
3. Write the chemical constituents and uses of woolfat
4. Define glycosides and give examples
5. Write sources and uses of bromolain and Serratiopeptidase.
6. What is polyploidy and write its application in cultivation of medicinal plants
7. What are resins give examples
8. Write the source of honey and detection of adulteration of honey
9. Define alkaloids write their identification tests
10. Write the chemical tests for acacia and agar

PART - B

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

11. (a) Explain the role of pharmacognosy in homeopathic system of medicine
    (b) Write pharmacognostic note on Tragacanth.

12. What are various methods of classification of crude drugs .Write about morphological and chemical classification of crude drugs.

13. What is drug evaluation? Explain about physical evaluation of crude drugs

PART - C

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

14. Write the applications of plant harmones.
15. Define and classify Tannins. Write their identification tests.
16. Write a note on any two plant fibre drugs.
17. What are leaf constants write their importance?
18. How do waxes differ from fats? Write a pharmacognostic note on Bees wax.
19. Write a note on edible vaccines.
20. Discuss the nutritional requirements for culturing cells/tissues in Plant Tissue Culture.
21. Write the advantages & disadvantages of cultivation of medicinal plants.
22. Explain about lycopodium spore method.

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Code No: F–7179/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Backlog) Examination, April 2024

Subject: Pharmacognosy and Phytochemistry-I

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

PART - A

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

1. Define and classify resins with examples.
2. Write source and active constituents of any two dried extracts.
3. What are organoleptic characters? Write description of acacia.
4. Enlist ash values of significance in the evaluation of crude drugs.
5. Write physiological effects of auxins.
6. What is calibration?
7. Write the basic concept of Chinese systems of medicine.
8. Write the procedure and use of shinoda test and borntrager's test.
9. Write the source and uses of beeswax and jute.
10. Exemplify fibers. Write features and tests for plant fibers.

PART – B

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

11. Discuss about various methods of classification of crude drugs.
12. Write about (i) Extraction methods for fixed oils
    (ii) Alkaloids
13. Write about advantages & disadvantages of cultivation of medicinal plants.

PART – C

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

14. Write in detail about leaf constants.
15. Discuss factors affecting cultivation of medicinal plants.
16. Write pharmacognosy of Gelatin.
17. Write about edible vaccines.
18. Write a note on plant allergens.
19. Write biological source, active constituents of chalmoogra oil and agar.
20. Define glycosides and classify with examples.
21. Write about plant hormones & their applications.
22. Write the role and importance of pharmacognosy in Ayurveda system of medicine.

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Code No: F-7177/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, April 2024

Subject: Physical Pharmaceutics-II

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

PART-A

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

1. What is coacervation?
2. Define yield point and mention its importance in rheology.
3. What is dilatant flow and give an example.
4. What is Ostwald ripening and its effect on the stability of dispersed systems?
5. Write the importance of stress and strain diagrams.
6. What is flocculated suspension?
7. Mention characteristics and applications of microemulsion.
8. What is sedimentation volume and its applications?
9. What is % porosity and mention its significance.
10. Write kinetic equation for second order reaction.

PART-B

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

11. Describe different methods of determining viscosity.
12. Explain the derived properties of powder and describe a method to determine surface area by adsorption method.
13. What is accelerated stability testing and its use in determination of expiration date?

PART-C

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

14. Explain optical properties of colloids.
15. Classify colloids. Write the effect of electrolytes on colloids.
16. Write the Heckel equations and mention their impotence.
17. Describe the formulation of emulsions by HLB method.
18. Explain the preservation of emulsions.
19. Write the working principle of the counter counter with the help of a diagram.
20. What is specific and general acid base catalysis?
21. Explain the equations applicable to pseudo zero order reactions.
22. The first order rate constant of a drug is 0.003 per month. Calculate the shelf-life and half-life in years with help of relevant equations.

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Code No: F-7176/PCI

FACULTY OF PHARMACY

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

Subject: Medicinal Chemistry – I

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

PART-A

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

1. What is Chelation? Write its significance.
2. Ortho salicylic acid is more active than para hydroxy benzoic acid. Why?
3. Classify cholinergic receptors and write their distribution.
4. Give the uses of Isoproterenol & Phentolamine.
5. Give the uses of phenytoin and clonazepam.
6. Outline the biosynthesis of Acetyl choline
7. Define Sedatives? Give two examples
8. Write the structures of any two barbiturate drugs & their uses.
9. Give the synthesis of Ibuprofen.
10. Define narcotic antagonists? Give two examples

PART-B

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

11. Explain how the following physicochemical properties influence the biological action of a drug molecule
    (i) Bio isosterism (ii) Chelation (iii) Protein binding (iv) Partition coefficient

12. Define, classify cholinergic agonists with examples and discuss the mode of action of acetyl cholinesterase inhibitors.

13. Define NSAIDs with minimum two structural examples in each class and write MOA, uses & SAR of morphine analogues.

PART-C

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

14. Discuss Phase-I reactions.
15. Explain the role of cytochrome 450 enzyme in drug Metabolism
16. Write a note on alpha adrenergic blockers
17. Write a note on Neuromuscular blocking agents
18. Write the classification & SAR of parasympathomimetics agents.
19. Give the structures, MOA and uses of Methantheline, Clonidine.
20. Write the structures and uses of a) Diazepam b) Triclofos Sodium.
21. Classify antipsychotics with examples.
22. Write the synthesis and uses of Halothane & Ketamine.

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Code No: F-7178/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, April 2024

Subject: Pharmacology - I

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

PART-A

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

1. Discuss the concept of first pass metabolism with examples.
2. Differentiate enzyme induction and enzyme inhibition.
3. Mention the functions of receptors.
4. Discuss the differences between general anesthetics and local anesthetics.
5. Write a note on co-transmission.
6. Describe the stages of general anesthesia.
7. Define synergism. Classify with examples.
8. Mention the uses of disulfiram.
9. Mention the clinical uses of naltrexone.
10. Define drug abuse. Give examples.

PART-B

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

11. Define Receptor. Classify receptors and discuss about signal transduction mechanism of transmembrane enzyme linked receptors.

12. (a) Write the pharmacological actions of adrenaline.
    (b) Explain the various therapeutic uses and adverse reactions of β-adrenergic blockers.

13. What is Alzheimer's disease? Classify drugs used in Alzheimer's disease and explain the mechanism of action, adverse effects and therapeutic uses of cholinergic activators.

PART-C

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

14. Discuss the mechanism of action of local anesthetics.
15. Write a note on various phases of clinical trials.
16. Explain about the factors modifying drug action.
17. Compare the merits and demerits of oral and parenteral routes of administration.
18. Explain the pharmacological actions of adrenaline.
19. Define myasthenia gravis. Enlist the drugs used in its treatment.
20. Explain the pharmacology of hydantoins.
21. Discuss the mechanism of action and uses of morphine.
22. Classify sedative-hypnotics with examples. Explain the mechanism of action, adverse effects and uses of benzodiazepines.

Code No: F-7175/PCI

FACULTY OF PHARMACY

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

Subject: Pharmaceutical Organic Chemistry-III

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

PART-A

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

1. Why Pyridine is more basic than Pyrrole.
2. What is optical activity and give its significances.
3. Give any two applications of Lithium Aluminium hydride.
4. Draw the structures and uses of Pyrazole and Pyrimidine.
5. Define Birch reduction and give the example.
6. Mention any two reactions of Thiophene.
7. Write the structures and medicinal uses of Isoxazole and Thiazole.
8. What is the reason for electrophilic substitution at 2^{nd} position in Pyrrole.
9. Draw the structures of Acridine and Indole.
10. Draw the structure and medicinal uses of Purine.

PART-B

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

11. Explain the mechanisms and applications of following reactions.
    (a) Beckmann reaarangement
    (b) Oppenauer oxidation.

12. Write any three synthesis, reactions and medicinal uses of Pyrazole and Oxazole.

13. Define racemic mixture. Explain the various methods of resolution of racemic mixture.

PART-C

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

14. Write the mechanism involved in Wolf -kishner rearrngement.

15. Write any three reactions and uses of Acridine.

16. Outline the method of preparation of Quinoline and Isoquinoline.

17. Compare and contrast the acidity of Pyridine and basicity of Pyridine.

18. Explain the relative aromaticity and reactivity of Pyrole, Furan and Thiophene.

19. Explain Fisher Indole synthesis.

20. Write a note on Atropisomerism.

21. Describe the mechanism of Clemmenson reduction and mention its applications.

22. Explain stereospecific and Stereoselective reactions with examples.

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Code No: E-12409/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main & Backlog) Examination, October 2023
Subject: Pharmacognosy and Phytochemistry–I

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

PART - A

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

1. Write taxonomical classification of any one drug.
2. Define and classify volatile oils with examples.
3. Describe camera Lucida. Write its applications.
4. What are plant growth inhibitors? Write their physiological effects.
5. Write the basic concept of homeopathy.
6. Write source, and uses of honey and silk.
7. Write an outline on loss on drying.
8. Write about Dragendroff's test and kellerkilliani test
9. What is a latex? Write source, active constituents and use of any latex drug.
10. Write condition for storage of moisture sensitive drugs.

PART - B

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

11. What are the unique features of lycopodium spores? Write in detail evaluation of crude drugs by lycopodium method giving examples.
12. Write about (i) Factors affecting collection of crude drugs.
    (ii) Biological evaluation
13. Write applications of plant tissue culture.

PART - C

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

14. Write a note on marine drugs.
15. Elaborate the role of pharmacognosy in traditional medicine.
16. Write a note on conservation of medicinal plants.
17. What is hybridization? Write its significance with respect to medicinal plants giving examples.
18. Write pharmacognosy of cotton.
19. Write a note on plant derived hallucinogens.
20. Write a note on proteolytic enzymes.
21. Write about edible vaccines.
22. Write about plant hormones their applications.

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Code No: E-12407/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main & Backlog) Examination, October 2023

Subject: Physical Pharmaceutics-II

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

PART - A

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

1. Mention the size range and draw the shapes of colloidal particles.
2. What is Gold number? Write its importance.
3. What is peptization and mention its applications.
4. Define specific viscosity and relative viscosity.
5. What is deflocculated suspension?
6. Classify multiple emulsions and mention their applications.
7. What is degree of flocculation and mention its use.
8. What is plastic and elastic deformation?
9. Define angle of repose and mention its significance.
10. What is photolysis and how to prevent it?

PART - B

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

11. Explain the kinetic and optical properties of colloids.
12. Describe the theories of emulsification and stability of emulsions.
13. Explain different methods of determining particle size.

PART - C

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

14. What are non-newtonian systems and explain the concept of thixotropy with its importance.
15. Explain DLVO theory and write its significance.
16. Write the interfacial properties and settling in suspension and their influence on stability.
17. Write the methods to determine the order of reaction kinetics.
18. Write the construction and working of capillary viscometers.
19. Explain the formulation of flocculated and deflocculated suspensions.
20. Describe drug stabilization from hydrolysis and oxidation.
21. Explain the equations applicable to first order reactions.
22. The initial drug dose is 400 mg. Its concentration is reduced to 380 mg in 18 months. Calculate the zero order constant, half life and shelf life in years.

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Code No: E--12408/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Main & Backlog) Examination, October 2023

Subject: Pharmacology - I

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

PART – A

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

1. Define prodrug. Give the examples of prodrugs.
2. Define Bioavailability. Why the bioavailability of drugs is lower after oral administration.
3. Define plasma half life. Mention its significance.
4. What is vasomotor reversal of Dale?
5. Enlist the drugs used in glaucoma.
6. What is dose response relationship? What are its advantages?
7. Mention the uses of pre-anesthetic medication.
8. Name excitatory neurotransmitters present in CNS.
9. Mention the therapeutic uses and adverse reactions of benzodiazepines.
10. What is drug addiction? Give examples.

PART – B

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

11. Define Parkinsonism. Classify anti-Parkinson's drugs with examples. Write the mechanism of action and therapeutic uses of peripheral decarboxylase inhibitors.

12. (a) Write the pharmacological actions of acetylcholine.
    (b) Explain the various therapeutic uses and adverse reactions of parasympatholytics.

13. Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.

PART – C

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

14. Describe the three major effector pathways through which G-protein coupled receptors function.
15. Discuss about pharmacokinetic drug interactions with suitable examples.
16. Explain in detail about phase-I biotransformation of drugs with examples.
17. Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and therapeutic uses of curare alkaloids.
18. Mention the mechanism of action and uses of local anesthetic agents.
19. Write the pharmacological actions of alcohol.
20. Classify antiParkinson's drugs with examples. Write the mechanism of action and adverse effects of dopamine precursor.
21. Discuss in detail the pharmacological actions of morphine.
22. Write about the mechanism and stages of general anesthesia.

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Code No: E-12406/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Main & Backlog) Examination, October 2023
Subject: Medicinal Chemistry – I

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

PART-A

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

1. Define bioisosterism and classify bioisosterism.
2. Define geometrical isomerism and give examples.
3. Write the biosynthesis of catecholamines.
4. Give the structures and uses of Prazocin and Atenolol.
5. Outline the synthesis of Salbutamol.
6. Classify cholinergic receptors and write their distribution
7. Write about cholinesterase reactivator.
8. Define antipsychotics and write examples.
9. Give the structures and uses any two analogues of Barbiturates.
10. Classify general anaesthetics and write examples.

PART-B

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

11. What is drug metabolism? Discuss in detail phase I reactions involved in the drug metabolism.

12. (a) Write in detail about parasympathomimetics
    (b) Classify sedatives and hypnotics and write the SAR of Benzodiazepines.

13. (a) Write the synthesis and uses of Ketamine hydrochloride & Methadone Hydrochloride
    (b) Write the SAR of morphine analogues.

PART-C

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

14. Explain the factors affecting drug metabolism including stereo chemical aspects.
15. Define and give the significance of ionization & partition coefficient.
16. Explain the SAR of beta adrenergic blocking agents.
17. Classify cholinolytic agents with examples.
18. Write the synthesis and uses of Dicyclomine and Ipratropium bromide.
19. Write the synthesis and MOA of Ibuprofen & Halothane.
20. Classify antipsychotics and write SAR of Phenothiazines.
21. What are Narcotic agonists and antagonists? Explain their pharmacological action.
22. Give the synthesis and uses of Phenytoin and Chlorpromazine.

Code No: E-12223/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, April / May 2023

Subject: Medicinal Chemistry - I

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

PART-A

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

1. Define bioisosterism and classify bioisosterism.
2. Define geometrical isomerism and give examples.
3. Write the biosynthesis of catecholamines.
4. Give the structures and uses of Prazocin and Atenolol.
5. Outline the synthesis of Salbutamol.
6. Classify cholinergic receptors and write their distribution
7. Write about cholinesterase reactivator.
8. Define antipsychotics and write examples.
9. Give the structures and uses any two analogues of Barbiturates.
10. Classify general anaesthetics and write examples.

PART-B

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

11. What is drug metabolism? Discuss in detail phase I reactions involved in the drug metabolism.
12. a) Write in detail about parasympathomimetics
    b) Classify sedatives and hypnotics and write the SAR of Benzodiazepines.
13. a) Write the synthesis and uses of Ketamine hydrochloride & Methadone Hydrochloride
    b) Write the SAR of morphine analogues.

PART-C

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

14. Explain the factors affecting drug metabolism including stereo chemical aspects.
15. Define and give the significance of ionization & partition coefficient.
16. Explain the SAR of beta adrenergic blocking agents.
17. Classify cholinolytic agents with examples.
18. Write the synthesis and uses of Dicyclomine and Ipratropium bromide.
19. Write the synthesis and MOA of Ibuprofen & Halothane.
20. Classify antipsychotics and write SAR of Phenothiazines.
21. What are Narcotic agonists and antagonists? Explain their pharmacological action.
22. Give the synthesis and uses of Phenytoin and Chlorpromazine.

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Code No: E-12222/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Backlog) Examination, April / May 2023

Subject: Pharmaceutical Organic Chemistry-III

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

PART-A

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

1. Define plane of symmetry and optical activity.
2. What are enantiomers? Give an example.
3. Discuss cis, trans isomerism with examples.
4. Write the structure and uses of any two drugs with pyrrole ring.
5. Discuss any two synthetic methods of thiophene.
6. Mention any two reactions of Oxazole.
7. Explain why pyridine is more basic than pyrrole?
8. Give any two medicinally important compounds and uses of pyrimidine and isoquinoline.
9. Mention any two applications of Birch reduction.
10. Write any two reactions of acridine.

PART-B

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

11. (a) Explain the sequence rules for R and S system of nomenclature of optical isomers.
    (b) Give a brief account on Asymmetric synthesis.

12. (a) Write any two synthetic methods, three reactions and medicinal uses of
    (i) Furan (ii) Imidazole

(OR)

(b) Describe the mechanism and applications of following reactions
(a) Beckmann rearrangement (b) Oppenauer-oxidation.

PART-C

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

14. Define racemic mixture. Explain the various methods of resolution of racemic mixture.
15. Write about different conformations of ethane.
16. Mention the applications of Lithium Aluminium Hydride.
17. Describe the mechanism of Claisen-Schmidt condensation and mention its applications?
18. (a) Mention any two methods of synthesis of thiazole (b) Give any two reactions of Indole.
19. Discuss the mechanism and applications of Sodium borohydride.
20. Explain Skraups synthesis of Quinoline.
21. Explain stereospecific and stereoselective reactions with examples.
22. Give the structures and specific uses of drugs containing (i) pyridine (ii) purine.

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Code No: E-12224/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, April / May 2023

Subject: Physical Pharmaceutics-II

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

PART-A

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

1. Define and classify colloid dispersions
2. What is Nernst potential
3. Write Stokes law and mention terms in it
4. What are Newtonian systems
5. What is multiple emulsion
6. Define bulk and tapped density
7. What is angle of repose and mention its importance
8. What is pseudo first order reaction
9. What is Photolytic degradation
10. List the chemical factors causingdrug degradation.

PART-B

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

11. Explain different viscometers along with their benefits and limitations in determination of viscosity.
12. Explain formulation methods for flocculated and deflocculated suspensions
13. Explain the procedures of accelerated stability testing in determination of shelf life

PART-C

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

14. Describe the method for preparation of association colloid
15. Write the optical properties of colloid
16. Explain the effect of electrolytes on colloid dispersions
17. Explain different signs of physical instability of emulsions
18. Describe the significance of Heckel equation
19. Describe the emulsion formulation of HLB method
20. Explain various flow properties of power
21. Write zero order reaction kinetics and its equations
22. Write the stabilization of medicinal agents against oxidation.

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Code No.E-12226/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV – Semester (Backlog) Examination, May 2023

Subject: Pharmacognosy & Phytochemistry – I

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

PART – A

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

1. What are lattices. Write the source, active constituents and uses of any one latex drug.
2. What is biological evaluation. Write its significance.
3. What is cochicine. How it is employed to induce polyploidy.
4. Write about chemotaxonomic classification.
5. Mention various types of cultures in PTC (Plant Tissue Culture).
6. Define and classify resins. Write their properties and uses.
7. Write the concept of Chinese system of medicine.
8. Write about Goldbeater's test and Keller – Killiani test.
9. Write source and applications of Tragacanth.
10. Write the identification tests for fixed oils.

PART – B

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

11. Discuss sea as a source of drugs. Give an account of drugs obtained from marine source.
12. Write a detailed pharmacognostic note on Cotton.
13. Discuss the principle, procedure and applications of lycopodium spore method in detail.

PART – C

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

14. Write in detail the present scope and future development of pharmacognosy.
15. Define adulteration. What are the common techniques adopted in commerce to adulterate crude drugs. Give examples.
16. Define leaf constants. Discuss the procedure to determine palisade ratio.
17. How environmental factors contribute for drug deterioration. Give an account of ideal storage conditions for crude drugs.
18. Write a note on plant teratogens.
19. Enlist plant derived proteolytic enzymes. Write the source and applications of papain and serratiopeptidase.
20. Write a detailed general note on glycosides.
21. Discuss the nutritional requirements for culturing cells/tissues in PTC (Plant Tissue Culture).
22. Write a detailed note on gelatin.

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Code No: E-12225/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Backlog) Examination, April / May 2023

Subject: Pharmacology-I

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

PART-A

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

1. Discuss the concept of first pass metabolism with examples.
2. Define Bioavailability. Why the bioavailability of drugs is lower after oral administration
3. What is dose response relationship? What are its advantages?
4. Define plasma half life. Mention its significance
5. What is vasomotor reversal of Dale?
6. Enlist the drugs used in glaucoma
7. Mention the uses of pre-anesthetic medication
8. Name excitatory neurotransmitters present in CNS.
9. What is drug addiction? Give examples.
10. Mention the therapeutic uses and adverse reactions of benzodiazepines.

PART-B

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

11. a) Write the pharmacological actions of adrenaline.
    a) Explain the various therapeutic uses and adverse reactions of $-\beta$ adrenergic blockers
12. Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.
13. What is Alzheimer's disease? Classify drugs used in Alzheimer's disease and explain the mechanism of action, adverse effects and therapeutic uses of cholinergic activators

PART-C

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

14. Explain in detail about phase-I biotransformation of drugs with examples.
15. Describe the three major effector pathways through which G-Protein coupled receptors function.
16. Discuss about pharmacokinetic drug interactions with suitable examples.
17. Classify neuromuscular blockers with examples. Write the mechanism of action. Adverse effects and therapeutic uses of curare alkaloids.
18. Mention the mechanism of action and uses of local anesthetic agents.
19. Write the pharmacological actions of alcohol
20. Write about the mechanism and stages of general anesthesia
21. Classify antiparkinson's drugs with examples. Write the mechanism of action and adverse effects of dopamine precursor.
22. Discuss in detail the pharmacological actions of morphine.

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Code No: E-12018/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Main &Backlog) Examination, November 2022
Subject: Pharmaceutical Organic Chemistry-III

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

PART-A (20 Marks)

Note: Answer all the questions:

1. Define the terms optical activity and Meso compound.
2. Define and classify heterocyclic compounds with examples.
3. Explain the RS system of Nomenclature with two examples.
4. Write the structure and uses of two drugs with furan ring.
5. Discuss any two synthetic methods of thiazole.
6. Mention any two reactions of quinolone.
7. Explain why pyridine is more basic than pyrrole?
8. Give any two medicinally important compounds and uses of Pyrimidine and isoquinoline.
9. Give any two applications of $NaBH_4$
10. Write any two reactions of pyrazole.

PART-B (20 Marks)

Note: Answer any two questions:

11. (a) Define geometrical isomerism and explain Cis-Trans/EZ Nomenclature of geometrical isomers with examples.
    (b) Discuss different conformations of cyclohexane.

12. Write any two synthetic methods, three reactions and medicinal uses of 9
    (a) Pyrrole

    (OR)

    (b) Thiophene.

13. Describe the mechanism and applications of following reactions
    (a) Birch reduction (b) Oppenauer-oxidation.

PART-C (35 Marks)

Note: Answer any seven questions:

14**.** Write about different conformations of ethane.
15. Define racemic modification. Explain the various methods of resolution of racemic mixture.
16. Mention the applications of Lithium Aluminium Hydride.
17. Describe the mechanism of Beckmann rearrangement and mention its applications?
18(a) Mention any two methods of synthesis of imidazole (b) Give any two reactions of oxazole.
19. Discuss the mechanism and applications of Wolfkishner reduction.
20. Explain Fischer indole synthesis.
21. Write a note on Atropisomerism.
22. Give the structures and uses of the following (i) Acridine (ii) purine (iii) thiazole (i) Pyridine.

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Code No.D-12022/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV – Semester (Main & Backlog) Examination,
November 2022
Subject: Pharmacognosy & Phytochemistry – I

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

PART – A

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

1. Write advantages of tissue culture over other cultivation techniques.
2. Describe micrometers and write its application in identification of drugs.
3. Explain any two methods to improve soil fertility.
4. Classify auxins giving examples. Write the applications.
5. Explain surface sterilization of explants.
6. Write the role of pharmacognosy in allopathy.
7. Differentiate volatile oils from fixed oils.
8. Exemplify plant hallucinogens. Write about Indian hemp.
9. Write about any two animal derived crude drugs.
10. Write identification tests for tannins.

PART – B

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

11. (a) Write the advantages & disadvantages of cultivation of medicinal plants.
    (b) Write application of mutation in development of new plant breeds.
12. Write pharmacognosy of Agar.
13. Write about common practices involved in collection and processing of crude, drugs.

PART – C

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

14. Define Drug evaluation. Enlist methods adopted and give an account of chemical evaluation.
15. Write note on Alkaloids.
16. Write about practices adopted for conservation of medicinal plants.
17. Write a pharmacognostic note of Bees wax.
18. Discuss marine toxins.
19. Write the souce, chemical constituents and uses of cotton castor oil.
20. Discuss chemical classification of crude drugs giving examples.
21. Write a note on edible vaccines.
22. Write application of PTC (Plant Tissue Culture).

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Code No: E-12021/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Main & Backlog) Examination, November 2022

Subject: Pharmacology-I

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

PART- A

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

1. Define prodrug, give the examples of prodrugs.
2. Differentiate enzyme induction and enzyme inhibition
3. Mention the functions of receptors
4. Define synergism. Classify with examples
5. Discuss the differences between general anesthetics and local anesthetics
6. Write a note on co-transmission
7. Describe the stages of general anesthesia
8. Mention the uses of disulfiram
9. Define drug abuse. Give examples
10. Mention the clinical uses of naltrexone.

PART- B

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

11. Define Receptor. Classify receptors and discuss about signal transduction mechanism of transmembrane enzyme linked receptors.
12. a) Write the pharmacological actions of acetylcholine
    b) Explain the various therapeutic uses and adverse reactions of parasympatholoytics.
13. Define Parkinsonism. Classify anti-Parkinson's drugs with examples. Write the mechanism of action and therapeutic uses of peripheral decarboxylase inhibitors.

PART- C

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

14. Compare the merits and demerits of oral and parenteral routes of administration.
15. Differentiate enzyme induction and enzyme inhibition
16. Write a note on various phases of clinical trials
17. Explain about the factors modifying drug action
18. Explain the pharmacological actions of adrenaline
19. Define myasthenia gravis. Enlist the drugs used in its treatment
20. Classify sedative-hypnotics with examples. Explain the mechanism of action, adverse effects and uses of benzodiazepines.
21. Explain the pharmacology of hydantions.
22. Discuss the mechanism of action and uses of morphine.

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Code No: E-12020/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Main & Backlog) Examination, November 2022
Subject: Physical Pharmaceutics - II

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

PART – A

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

1 Define and classify coarse dispersions.
2 What is Zeta potential?
3 What are non-Newtonian systems?
4 What is microemulsion?
5 Mention factors influencing viscosity.
6 Define porosity.
7 Define sedimentation volume and what is its importance.
8 What is pseudo zero order reaction?
9 How to prevent photolytic degradation?
10 List the physical factors causing drug degradations.

PART – B

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

11 Explain theories of emulsification. Describe preservation of emulsions.
12 Explain different methods for determining surface area of powders.
13 Describe the procedure for determination of expiry date.

PART – C

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

14 Write various methods for preparation of colloids.
15 Differentiate lyophilic and lyophobic colloid dispersions.
16 Compare and contrast flocculated and deflocculated suspensions.
17 Explain the interfacial properties of suspensions.
18 What is thixotropy and mention its importance in pharmacy.
19 Write different derived properties of powders.
20 Describe the procedure for determination of particle size and its distribution.
21 Write first order reaction kinetics and its equations.
22 Write the stabilization of medicinal agents against hydrolysis.

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Code No: E-12019/PCI

FACULTY OF PHARMACY

B. Pharmacy IV – Semester (PCI) (Main & Backlog) Examination, November 2022

Subject: Medicinal Chemistry - I

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

PART – A

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

1. What is partition coefficient? Write its significance.
2. Ortho salicy acid is more active than para hydroxyl benzoic acid. Why?
3. Classify adrenergic receptors and write their distribution
4. Give the structures and uses of Labetalol & Phentolamine.
5. Give the synthesis of Neostigmine.
6. Outline the biosynthesis of Acetyl choline
7. Define anticonvulsants? Give two examples
8. Write the structure and MOA of Diazepam.
9. Give the synthesis of Fentanyl citrate.
10. Define narcotic antagonists? Give two examples.

PART – B

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

11. Explain how the following physicochemical properties influence the biological action of a drug molecule.
    (1) Ionization (2) Chelation (3) Protein binding (4) Solubility

12. Define, classify cholinergic agonists with examples and discuss the mode of action of acetyl cholinesterase inhibitors.

13. Define NSAIDs with minimum two structural examples in each class and write MOA. Uses & SAR of morphine analogues.

PART – C

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

14. Discuss conjugation reactions.
15. Explain the role of cytochrome 450 enzyme in drug Metabolism
16. Write a note on Solanaceous alkaloids
17. Write a note on Neuromuscular blocking agents.
18. Write the classification & SAR of sympathomimetic agents.
19. Give the structures. MOA and uses of Propranolol. Clonidine.
20. Write the structures and uses of a) Benztropine mesylate b) Triclofos Sodium
21. Classify antipsychotics with examples.
22. Define and classify sedatives and hypnotics with examples.

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Code No. D8170/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Backlog) Examination, March 2022

Subject: Pharmacognosy & Phytochemistry - I

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

PART – A

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

1 Exemplify Alphabetical and pharmacological methods for classification of crude drugs.
2 What are 'bio fertilizers"? Write about any two.
3 Classify unorganized drugs giving examples.
4 Define various Leaf constants.
5 Enlist phytohormones. Write about the role of absicic acid in plant growth.
6 Write about surface sterilization in tissue culture.
7 Define 'glycosides'. Classify giving examples.
8 Write the source and uses of Honey and chaulmoogra oil.
9 Write about any two plant fibre drugs.
10 Write about Wool fat and Acacia.

PART – B

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

11 What are the various methods for cultivation of medicinal plants? Write their merits and demerits.
12 (a) Write a note on edible vaccines.
(b) Write about hairy root culture.
13 (a) Write the role of pharmacognosy on Homeopathic system of medicine.
(b) Write sources, uses and industrial applications of proteolytic enzymes.

PART – C

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

14 Classify marine drugs. Write about any three novel marine derived drugs.
15 Write in detail various applications of plant tissue culture.
16 What are the various sources for crude drugs? Elaborate on how tissue culture serves to a source.
17 What is adulteration? Write about various common practices adopted in commerce for adulteration of crude drugs.
18 Write a note on the influence of the following factors in collection of drugs.
(i) Rain fall (ii) Humidity (iii) Light.
19 Write a note on artificial mutations.
20 What is physical method of Drug Evaluation? Write about Ash values and Extractive values.
21 Define Volatile oils and Tannins. Classify them giving examples.
22 Write pharmacognostic note on Tragacenth.

Code No. D-8167/ PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Backlog) Examination, March 2022

Subject: Medicinal Chemistry - I

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

PART – A

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

1 What is partition coefficient?
2 What is chelation?
3 What are the uses of barbiturates?
4 Write the uses of Diazepam and Phenytoin.
5 Give the synthesis of Propranolol.
6 Write a note on adrenergic receptors and their distribution.
7 Define anticonvulsants. Give two examples.
8 Write the uses of Neostigmine and physostigmine.
9 Give the uses of Diclofenac and Thiopental.
10 Define cholinolytics. Give two examples.

PART – B

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

11 Explain how the following physicochemical properties influence the biological action of a drug molecule.
(a) Partition coefficient (b) Chelation
(c) Hydrogen bonding (d) Solubility.
12 Define, classify and write the SAR of parasympathomimetic agents.
13 Define NSAIDs with minimum two structural examples in each class and write in detail about narcotic antagonists.

PART – C

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

14 Write about protein binding of drugs its advantages and disadvantages.
15 Explain the role of cytochrome 450 enzyme in drug Metabolism.
16 Explain the S.A.R. of β-adrenergic blocking agents.
17 Write a note on Neuromuscular blocking agents.
18 Write about Acetylcholone esterase inhibitors.
19 Give the structures of solanaceous alkaloids and discuss their pharmacological actions.
20 Classify anticonvulsants and write the SAR of barbiturates.
21 Write the SAR of morphine analogues.
22 Give the synthesis and MOA of Phenytoin and Dicyclomine hydrochloride.

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Code No. D-8167/A/PCI

FACULTY OF PHARMACY

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

Subject: Pharmaceutical Organic Chemistry - III

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

PART – A

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

1 Differentiate enantiomers and diastereomers with examples.
2 Draw the conformational isomers of ethane and n-butane.
3 Define Atropisomerism of biphenyl compounds with examples.
4 Define and classify Heterocyclic compounds.
5 Explain the basicity of pyridine.
6 Give any two applications of clemmensen reduction.
7 Define Birch and Wolffkishner reduction.
8 Define the following terms: (a) Meso compounds (b) Specific rotation.
9 Draw the structures of (i) Acridine (ii) Indole.
10 Draw the structures of (i) Quinoline (ii) Isoquinoline.

PART – B

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

11 What are the sequence rules and explain the RS system of Nomenclature of optical isomers?
12 Write the mechanism and applications of metal hydride reductions
(a) $NaBH_4$ (Sodium borohydride) (b) $LiAlH_4$ (Lithium Aluminium hydride)
13 Write any two synthesis and three reactions and medicinal uses of
(a) Imidazole (b) Thiazole.

PART – C

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

14 Define elements of symmetry with examples.
15 Discuss any 3 methods of resolution of racemic modification.
16 Write the significance of stereospecific and stereoselectic reactions with examples.
17 Write about synthesis, reactions and medical uses of Furan.
18 Write about reactions of pyridine.
19 Mention applications of oppenauer-oxidation and Dakin reaction.
20 Write a note on geometrical isomers and nomenclature of geometrical isomers.
21 Give the structure and specific uses of drugs of (one for each category)
(a) Azepines (b) Thiophene (c) Pyrazole (d) Purines (e) Pyrimidines.
22 Explain the relative aromaticity and reactivity f pyrole, furan and thiophene.

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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-8169/ PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) (Backlog) Examination, March 2022

Subject: Pharmacology - I

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

PART – A

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

1 Discuss the concept of first pass metabolism with examples.
2 Define Bioavailability. Why the bioavailability of drug s is lower after oral administration.
3 What is dose response relationship? What are its advantages?
4 Define plasma half life. Mention its significance.
5 What is vasomotor reversal of Dale?
6 Enlist the drugs used in glaucoma.
7 Mention the uses of pre-anesthetic medication.
8 Name excitatory neurotransmitters present in CNS.
9 What is drug addiction? Give examples.
10 Mention the therapeutic uses and adverse reactions of benzodiazepines.

PART – B

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

11 (a) Write the pharmacological actions of adrenaline.
(b) Explain the various therapeutic uses and adverse reactions of β-adrenergic blockers.
12 Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.
13 What is Alzheimer's disease? Classify drugs used in Alzheimer's disease and explain the mechanism of action, adverse effects and therapeutic uses of cholinergic activators.

PART – C

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

14 Explain in detail about phase-I biotransformation of drugs with examples.
15 Describe the three major effector pathways through which G-protein coupled receptors function.
16 Discuss about pharmacokinetic drug interactions with suitable examples.
17 Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and therapeutic uses of curare alkaloids.
18 Mention the mechanism of action and uses of local anesthetic agents.
19 Write the pharmacological actions of alcohol.
20 Write about the mechanism and stages of general anesthesia.
21 Classify antiparkinson's drugs with examples. Write the mechanism of action and adverse effects of dopamine precursor.
22 Discuss in detail the pharmacological actions of morphine.

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Code No. 12361/ PCI

FACULTY OF PHARMACY
B. Pharmacy IV Semester (PCI) (Main & Backlog) Examination, September 2021

Subject: Pharmaceutical Organic Chemistry - III

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

PART – A

Note: Answer any seven questions. (7 x 3 = 21 Marks)

1 Define elements of symmetry.
2 Draw the conformational isomers of cyclohexane.
3 Define and classify heterocyclic compounds with examples.
4 Explain the RS system of Nomenclature along with two examples.
5 What is optical activity? How we can measure it?
6 Give any two applications of $LiAlH_4$ (Lithium Aluminium Hydride).
7 Give any two applications of $NaBH_4$.
8 Draw the structures of (a) Pyrazole (b) Imidazole.
9 Draw the structures of (a) Thiazole (b) Pyrimidine.
10 Give the reason for electrophilic substitution at 2^{nd} position in pyrrole.

PART – B

Note: Answer any one questions. (1 x 14 = 14 Marks)

11 Define geometrical isomerism and explain the Cis-Trans/EZ/Syn Anti system of Nomenclature of geometrical isomers with examples.
12 Describe the mechanism and applications of following reactions –
(a) Beckmann rearrangement (b) Oppenauer-oxidation.
13 Write any two synthesis and three reactions and medicinal uses of (a) Furan (b) Thiophene.

PART – C

Note: Answer any five questions. (5 x 8 = 40 Marks)

14 Explain the DL system of Nomenclature of stereoisom.
15 Explain the stereo isomerism in biphenyl compounds and give the condition of optical activity.
16 Write the mechanism involved in Wolf-Kishner reduction.
17 Compare and contrast the acidity of pyridine and basicity of pyridine.
18 Write a note on assymetric synthesis.
19 Write any two synthesis, reactions, medicinal uses of Indole.
20 Write any two synthesis, reactions, medicinal uses of Pyridine.
21 Give the structure and specific uses of drugs of cone for each category –
(a) Acridine (b) Isoquinoline (c) Quinolines (d) Pyrole (e) Azepines.
22 Write the mechanism involved in oppenauer-oxidation.

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Code No. 12362/PCI

FACULTY OF PHARMACY

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

Subject: Medicinal Chemistry - I

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

PART – A

Note: Answer any seven questions. **(7 x 3 = 21 Marks)**

1 Define hydrogen bonding and its effect on biological activity of drugs.
2 Mention factors affecting drug metabolism.
3 Write the biosynthesis of catecholamines.
4 Write the uses of phenytoin and oxazepam.
5 Give the synthesis of Carbachol.
6 Write a note on cholinergic receptors and their distribution.
7 Define antipsychotics. Give two examples.
8 Write the uses of Diazepam and phenylephrine.
9 Write the uses of Mefenamic acid and Ketorolac.
10 Define narcotic antagonists. Give two examples.

PART – B

Note: Answer any one questions. **(1 x 14 = 14 Marks)**

11 Discuss in detail phase I reactions involved in the drug metabolism.
12 Write the pharmacological actions of Adrenaline and discuss the SAR of adrenomimetics.
13 Write in detail about the following class of drugs and their applications.
(a) Phenothiazines (b) Benzodiazepines.

PART – C

Note: Answer any five questions. **(5 x 8 = 40 Marks)**

14 Explain the importance of Bioisosterism in drug design.
15 Define sedatives and hypnotics and classify them with examples.
16 Write the pharmacological actions of Adrenaline and discuss the SAR of adrenomimetics.
17 Give the synthesis and uses of Ketamine hydrochloride and Ibuprofen.
18 Write a note on cholinolytics.
19 Define sedatives and hypnotics and classify them with suitable examples.
20 Write a short note on tranquilizers.
21 What are Narcotic agonists and antagonists? Explain their pharmacological action.
22 Give the synthesis and uses of Phenytoin and Carbamazepine.

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Code No. 12363/PCI

FACULTY OF PHARMACY

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

Subject: Physical Pharmaceutics - II

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

PART – A

Note: Answer any seven questions. **(7 x 3 = 21 Marks)**

1 Define and classify colloid dispersions.
2 What is Nernst potential?
3 Write Stokes law and mention terms in it.
4 What are Newtonian systems?
5 What is multiple emulsion?
6 Define bulk and tapped density.
7 What is angle of repose and mention its importance?
8 What is pseudo first order reaction?
9 What is photolytic degradation?
10 List the chemical factors effect drug degradation.

PART – B

Note: Answer any one questions. **(1 x 14 = 14 Marks)**

11 Explain different viscometers along with their benefits and limitations in determination of viscosity.
12 Explain formulation methods for flocculated and deflocculated suspensions.
13 Explain the procedures of accelerated stability testing in determination of shelf life.

PART – C

Note: Answer any five questions. **(5 x 8 = 40 Marks)**

14 Describe the method preparation of association colloid.
15 Write the optical properties of colloid.
16 Explain the effect of electrolytes on colloid dispersions.
17 Explain different signs of physical instability of emulsions.
18 Describe the significance of Heckel equation.
19 Describe the emulsion formulation by HLB method.
20 Explain various flow properties of powder.
21 Write zero order reaction kinetics and its equations.
22 Write the stabilization of medicinal agents oxidation.

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Code No. 12364/ PCI

FACULTY OF PHARMACY
B. Pharmacy IV Semester (PCI) (Main & Backlog) Examination,
September 2021

Subject: Pharmacology - I

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

PART – A

Note: Answer any seven questions. **(7 x 3 = 21 Marks)**

1 Define prodrug. Give the examples of prodrugs.
2 Differentiate enzyme induction and enzyme inhibition.
3 Mention the functions of receptors.
4 Define synergism. Classify with examples.
5 Discuss the differences between general anesthetics and local anesthetics.
6 Write a note on co-transmission.
7 Describe the stages of general anesthesia.
8 Mention the uses of disulfiram.
9 Define drug abuse. Give examples.
10 Mention the clinical uses of naltrexone.

PART – B

Note: Answer any one questions. **(1 x 14 = 14 Marks)**

11 Define Receptor. Classify receptors and discuss about signal transduction mechanism of trans membrane enzyme linked receptors.
12 (a) Write the pharmacological actions of acetylcholine.
(b) Explain the various therapeutic uses and adverse reactions of parasympatholytics.
13 Define Parkinsonism. Classify anti-Parkinson's drugs with examples. Write the mechanism of action and therapeutic uses of peripheral decarboxylase inhibitors.

PART – C

Note: Answer any five questions. **(5 x 8 = 40 Marks)**

14 Compare the merits and demerits of oral and parenteral routes of administration.
15 Differentiate enzyme induction and enzyme inhibition.
16 Write a note on various phases of clinical trials.
17 Explain about the factors modifying drug action.
18 Explain the pharmacological actions of adrenaline.
19 Define myasthenia gravis. Enlist the drugs used in its treatment.
20 Classify sedative-hypnotics with examples. Explain the mechanism of action, adverse effects and uses of benzodiazepines.
21 Explain the pharmacology of hydantoins.
22 Discuss the mechanism of action and uses of morphine.

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Code No. 12365/PCI

FACULTY OF PHARMACY
B. Pharmacy IV Semester (PCI) (Main & Backlog) Examination, September 2021

Subject: Pharmacognosy and Phytochemistry-I

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 (7 x 3 = 21 Marks)

1 Classify organized drugs giving examples.
2 Exemplify influence of attitude in cultivation of medicinal plants.
3 Write 'Murexide test' and 'Shinoda test.
4 Write about adulteration of honey and its detection.
5 What are auxins? Write their physiological functions.
6 Describe Camera Lucida.
7 Write about any two plant teratogens.
8 Write the source and uses of bromelain and serratiopeptidase.
9 Write the therapeutic and industrial uses of gelatin and castor oil.
10 Write about any two fibre drugs.

PART - B (1 x 14 = 14 Marks)

11 (a) Write in detail the scope and development of pharmacognosy
(b) Write about lycopodium spore method.
12 Mention the objectives and write a detailed note on the methods adopted for the conservation of medicinal and aromatic plants.
13 Explain methods for induction of polyploidy. Elaborate the influence of polyploidy on the active constituents taking examples.

PART - C (5 x 8 = 40 Marks)

14 Write about the nutritional requirements for the growth and maintenance of plant cultures.
15 Elaborate on ideal storage conditions for crude drugs.
16 Write pharmacognotic note on cotton.
17 Enlist methods for classification of crude drugs.
18 Write a note on the role of pharmacognosy in allopathic system of medicine.
19 Write a detailed note on Resins.
20 Write source, chemistry and used of Bees Wax and Acacia.
21 Define 'Drug Evaluation'. Write about determination of 'Foreign Organic Matter' and Bitterness value.
22 Define 'Acholoids' and 'Tannins'. Write their identification tests.

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Code: 12070/PCI

FACULTY OF PHARMACY

B. Pharmacy IV – Semester (PCI) (Backlog) Examination, March 2021

Subject: Physical Pharmaceutics - II

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. What is HLB? What are its applications?
2. What is Tyndall effect?
3. Define surface tension. Mention its applications.
4. Define viscosity. Mention its applications.
5. Write stokes equation for sedimentation of particles.
6. What is Hooke's law? Give idea about plastic and elastic deformation.
7. Write the applications of microemulsions.
8. What is bulk density? Mention its applications.
9. What is first order reaction? Give some examples of first order reaction.
10. What is photo degradation? How it can be prevented?

PART – B (1 x 14 = 14)

11. Explain about methods for determination of viscosity.
12. Explain about formulation of flocculated and deflocculated suspensions.
13. Discuss about methods for determining order of reaction.

PART - C (5 x 8 = 40)

14. Explain about association of colloids.
15. Explain about plastic flow of liquids and give idea about plastic viscosity.
16. Write about theories of emulsification.
17. Mention the measures to prevent hydrolysis.
18. Write the principle as well as method for determination of surface tension.
19. State Fick's first law of diffusion and its role in colloids.
20. Write about hydrolytic degradation and its prevention.
21. Write the limitations of accelerated stability testing.
22. Explain about preservation of emulsion.

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Code No. 12069/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Backlog) Examination, March 2021

Subject: Medicinal Chemistry - I

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. Write the uses of cholinesterase inhibitors with two drug examples.
2. Write the structure and uses of Phenytoin.
3. Define geometrical isomerism with examples.
4. Write the structure and uses of any two anti inflammatory drugs.
5. Mention the uses of Adrenergic receptors blockers with two drug examples.
6. Explain the effect of solubility in relation to biological action of drug.
7. Write any two uses of Cholinersicegic blocking agents with examples.
8. Write the advantages of selective Cox-2 inhibitors.
9. Define and classify anticonvulsant drugs with suitable example.
10. Define sedative and heypnotic with examples.

PART – B (1 x 14 = 14)

11. What is drug metabolism? Write the factors influencing drug metabolism including sterochemical aspects.
12. Write the mechanism of action, uses and SAR of morphine analogues. Outline the synthesis of (a) Meperidine Hcl(pethidine) (b) Fentanyl citrate.
13. Write the classification, mechanism of action, SAR and uses of parasympathomimtic agents, atleast 2 structures for each class.

PART - C (5 x 8 = 40)

14. Write the importance of Bio-isoterism in drug design.
15. Write a note on ganglionic blocking agents.
16. Write the SAR of β-adrenergic blockers. Outline the synthesis mechanism of action and uses of propranolol.
17. Write a note on narcotic antagonists. Write the structures and uses of (a) Naloxone Hcl, (b) Nalorphine Hcl.
18. Define anti inflammatory agents. Write the classification, mechanism of action and uses of NSAIDS, atleast 2 structures for each class.
19. Outline the synthesis, mechanism of action and uses of (a) Halothane (b) Ketamine Hcl.
20. Explain indetail about SAR of Barbiturates.
21. Define and classify cholinergic blocking agents. Explain the SAR of tropane alkaloids.
22. Write the synthesis of Ibuprofen.

Code: 12068/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, March 2021

Subject: Pharmaceutical Organic Chemistry - III

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

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

PART – A (7x3=21 Marks)

1. Describe the terms plane polarized light and meso compound.
2. Write any one method of synthesis of Oxazole.
3. Mention any two reactions of Pyrazole.
4. Define geometrical isomerism with examples.
5. Give two applications of Lithium Aluminium Hydride.
6. Write the structures and medicinal use sof Isoxazole and thiazole.
7. Write any two reactions of acridine.
8. Discuss the conformations of ethane.
9. Write the names of any two compounds containing inidazole and oxazole.
10. Define elements of symmetry.

PART – B (1x14=14 Marks)

11. (a) Explain sequence rules to determine R and S configuration.
    (b) Write the conformational isomerism in Butane.
12. Outline any two methods of preparation and three reactions of Pyrrole and Furan.
13. Describe the mechanism of following reactions
    (i) Beckmann rearrangement (ii) Oppenauer oxidation.

PART - C (5x8=40 Marks)

14. Discuss two applications of Claisen schimdt condensation.
15. Discuss any two methods of resolution of racemic modification.
16. Outline the method of preparation of Quinoline and Isoquinoline.
17. Write any three reactions and uses of thiophene.
18. Write a note on basicity of Pyridine.
19. Give the structures and specific uses of drugs containng (i) pyrimidine (ii) purine.
20. Explain stereospecific and stereoselective reactions with examples.
21. Explain Fischer Indole synthesis.
22. Give a brief account on Asymmetric synthesis.

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Code No: 12072/PCI

FACULTY OF PHARMACY

B. Pharmacy IV- Semester (PCI) (Backlog) Examination, March 2021

Subject: Pharmacognosy & Phytochemistry - I

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

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

PART – A (7 X 3 = 21)

1. Differentiate organized and unorganized drugs.
2. What is organoleptic evcaution? Give examples.
3. What are uses of plant hormones? Give examples.
4. How do you test the germinating ability of seeds?
5. Write the uses of Flavonoids.
6. Write tests to differentiate cotton, jute.
7. Explain enfleurage.
8. Write source and uses of bromolein.
9. Write industrial applications of castor oil.
10. Write principles of ayurvedic system of medicine.

PART – B (1 x 14 = 14)

11. Discuss the development of pharmacognosy giving the historical background. What is the scope of pharmacognosy in providing new drugs?
12. Discuss the advantages and disadvantages of obtaining the crude drugs from cultivated and wild plants.
13. Write in detail applications of plant tissue culture.

PART - C (5 x 8 = 40)

14. Explain the principles of Homeopathy.
15. Write a note on Lycopodium Spore method.
16. Elaborate the applications of plant growth hormones in the cultivation of medicinal plants.
17. Write biological source, active constituents and uses of (i) Honey (ii) Chaulmoogra Oil.
18. Write about Edible vaccines.
19. How do waxes differ from fats? Write a pharmacognostic note on Bees wax.
20. Write the definition, properties and identification tests for Tannins.
21. Discuss different types of cultures in Plant Tissue Culture.
22. Write a note on marine biologicals as a source for novel drugs.

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Code: 12071/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Sem. (PCI) (Backlog) Examination, March 2021

Subject: Pharmacology - I

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 bioavailability and volume of distribution.
2. What is biological half life and its importance.
3. Define tolerance and tachyphylaxis.
4. Classify neurotransmitters with examples.
5. Define (i) Sedative (ii) Hypnotic.
6. Write the examples of beta blockers with intrinsic sympathomimetic activity.
7. Write any two differences between $GABA_A$ and $GABA_B$ receptors with examples.
8. Differentiate typical and a typical antipsychotics.
9. Define therapeutic index. Write the examples of narrow therapeutic index drugs.
10. Write any two examples of CYP enzyme inducers and inhibitors.

PART – B (1 x 14 = 14)

11. Define Receptor. Classify receptors and explain about G-Protein coupled receptors with signaling transduction mechanisms.
12. Write the pharmocolgy of
    (a) Diazepam (b) Morphine (c) Propranolol
13. Classify sympathomimetic drugs with examples. Explain the pharmacology of adrenaline.

PART - C (5 x 8 = 40)

14. Write a note on phase-I biotransformation reactions with examples.
15. Discuss about pharmacokinetic drug interactions with suitable examples.
16. Explain about the mechanism of action, adverse effects and uses of
    (a) Local anaesthetics.
    (b) Curare alkaloids.
17. Explain the mechanism of action, adverse effect and uses of
    (a) Beta blockers.
    (b) Anticholinesterases.
18. Classify antidepressants with examples. Write the mechanism action and adverse effects of tricyclic antidepressants.
19. Write about mechanism and stages of general anesthesia.
20. Explain about cholinergic transmission.
21. Classify sedative-Hypnotics with examples. Explain mechanism of action, adverse effects and uses of barbiturates.
22. Write a note on various phases of clinical trials.

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Code: 6284/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Suppl.) Examination, December 2020

Subject: Physical Pharmaceutics - II

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

PART – A

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

1. What is bulk density? Mention its applications.
2. Differentiate between lyophilic colloid and lyophobic colloid.
3. Define (a) Specific viscosity (ii) Kinematic viscosity.
4. Write the effect of temperature on viscosity.
5. Differentiate between flocculated suspension and deflocculated suspension.
6. Define (a) Sedimentation volume (b) Degree of flocculation.
7. What is angle of repose? Suggest methods to improve flow properties of granules.
8. Define porosity. Write its applications in pharmacy.
9. Give the equations for half life and shell life for first order reaction.
10. What is zero order reaction? Give some examples of zero order reaction.

PART – B

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

11. Explain about Newtonian systems and non-Newtonian systems of flow of liquids.
12. Explain about optical, kinetic and electrical properties of colloids.
13. Discuss about methods for determining particle size.

PART - C

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

14. Explain protective action of colloids and give idea about gold number.
15. Classify dispersed systems by their general characteristics.
16. Discuss any one method for determination of Viscosity.
17. Explain about measurement of thixotropy.
18. Discuss about the factors which improve physical stability of emulsion.
19. Write the importance of Stokes and law of sedimentation in suspension.
20. Mention the measures to prevent oxidative decomposition.
21. Explain about the methods for determination of true density.
22. Write about creaming in emulsion.

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Code: 6282/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main & Backlog)

Examination, November 2020

Subject: Pharmaceutical Organic Chemistry - III

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

PART – A

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

1. Define elements of symmetry.
2. Write any one method of synthesis of pyrazole.
3. Describe the terms optical activity and enantiomerissm.
4. Mention any two reactions of thiophene.
5. Define cis trans isomerism with examples.
6. Give two applications of Lithium Aluminium Hydride.
7. Write the structures and medicinal uses of Isoxazole and thiazole.
8. Write any two reactions of imidazole.
9. Draw the conformations of cyclohexane.
10. Write the names and uses of any two compounds containing hetero cycles.

PART – B

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

11. (a) Explain sequence rules to determine R and S configuration.
    (b) Write the conformational isomerism in cyclohexane.
12. Outline any two methods of preparation and three reactions of Pyrrole and Furan.
13. Describe the mechanism of following reactions.
    (i) Beckmann rearrangement (ii) Clemmensen reduction.

PART - C

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

14. Mention two applications of NaBH4 and Birch reduction.
15. Discuss any two methods of resolution of racemic modification.
16. Outline the method of preparation of Quinoline and Isoquinoline.
17. Write any three reactions and uses of Oxazole.
18. Write a note on basicity of Pyridine.
19. Give the structures and specific uses of drugs (one for each category) containing (i) pyrimidine (ii) purine (iii) azepine (iv) oxazole (v) thiazole.
20. Explain stereospecific and steroselective reactionso with examples.
21. Explain Fischer Indole synthesis.
22. Give a brief account on Asymmetric synthesis.

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Code: 6286/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Main & Backlog)

Examination, December 2020

Subject: Pharmacognosy and Phytochemistry - I

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

PART – A

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

1. Define adulteration. Give two examples of drug adulteration.
2. Write source and use of any two mineral drugs.
3. Write significance of water soluble ash taking any one example.
4. What are applications of plant hormones? Give examples.
5. Explain any two chemical tests for alkaloids.
6. Define 'Yin' and 'Yang' concepts of Chinese medicine.
7. Write the source and uses of tragacanth.
8. Write sources of Papain and Serratiopeptidase.
9. Write about any one plant terratogen.
10. Write advantages of hybridization of plants.

PART – B

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

11. What is the importance of alternative systems of medicine in India? Giving principles of ayurveda explain the role of phqarmacognosy in providing effective drugs.
12. Define 'Drug Evaluation'. Write a note on (i) Determination of Moisture (ii) Morphological evaluation.
13. Write pharmacognostic note on Agar & Gelatin.

PART - C

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

14. What is Biological evaluation? Write its application in evaluation of drugs.
15. Differentiate gums and mucilages. Write the source, active constituents and uses of one drug for each class.
16. Write about chemical classification of crude drugs.

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17. Explain influence of living and non- living factors in storage of crude drugs.
18. Discuss applications of plant breeding techniques with examples.
19. Discuss nutritional requirements for cultivation of plant cells.
20. Define and classify alkaloids with examples. Also write their identification tests.
21. Write the source, method of preparation and uses of Tragacanth and Wool fat.
22. Write a note on Plant hallucinogens.

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Code: 6285/PCI

FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Main & Backlog) Examination, December 2020

Subject: Pharmacology - I

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

PART – A

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

1. Write any two differences between competitive and non competitive antagonists?
2. Define biological half life and clearance.
3. Define prodrug. Write the examples of prodrugs.
4. Differentiate between enzyme induction and enzyme inhibition.
5. Write the metabolic enzymes for catecholamines.
6. Define drug tolerance and dependence.
7. Explain the mechanism of action of acetazolamide for treatment of glaucoma.
8. Define allosteric modulator. Write the examples of drugs act as allosteric modulations.
9. Define (i) Agonist (ii) Antagrist.
10. Write the examples of inhibitory neurotransmitters.

PART – B

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

11. Classify antiepileptic drugs. Explain mechanism action, adverse effect and uses of any 3 classes of drugs.
12. Classify parasympathomimetics with examples. Write the pharmacology of acetylcholine?
13. (a) Write about regulation of receptors with suitable examples.
    (b) Explain about transmembrane JAK-STAT receptors with examples.

PART - C

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

14. Define elimination of drugs. Explain about kinetics of drug elimination.
15. Write a note on alcohol and disulfiram.
16. Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and uses of curare alkaloids.
17. Classify opoid analgesics with examples. Write about the pharmacological actions of morphine.
18. Explain about adrenergic transmission.
19. Discuss enzyme induction and inhibition with suitable examples.
20. Classify antiparkinson's drugs with examples. Write the mechanism of action and adverse effects of dopamine precursor.
21. Define and classify ADR. Write a note on drug allergy.
22. Classify general an aesthetics with examples. Explain about the mechanism of general an aesthesia.

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Code No. 6056/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Suppl.) Examination, January 2020

Subject: Medicinal Chemistry - I

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 Define ionization. Give the equation to calculate % drug ionized.
2 *o*-Salicylicacid is more active than *p*-hydroxybenzoicacid. Why?
3 Write a note on adrenergic receptors and their distribution.
4 Write the structure and uses of naphazoline and tolazoline.
5 Write the synthesis of carbachol.
6 Write the structure and MOA of pralidoxime chloride.
7 Define sedatives and hypnotics with examples.
8 Give the structure and uses of haloperidol.
9 Define narcotic antagonists with examples.
10 Give the synthesis of ibuprofen.

PART-B (2 x 10 = 20 Marks)

11 (a) Explain in detail about conjugation reactions. (6M)
(b) Explain the factors affecting drug metabolism. (4M)

12 (a) Write a note on SAR of morphine analogues. (5M)
(b) Classify cholinolytic agents with examples. (5M)

13 (a) Write SAR and MOA of barbiturates. (5M)
(b) Write the synthesis and uses of phenytoin and chlorpromazine hydrochloride. (5M)

PART- C (7 x 5=35 Marks)

14 Explain the significance and determination methods of partition coefficient.

15 Write SAR of sympathomimetic agents.

16 Write synthesis of salbutamol and phenylephrine.

17 Write MOA of cholinesterase inhibitors.

18 Write the biosynthesis and catabolism of acetylcholine.

19 Classify adrenergic antagonists with examples.

20 Classify antipsychotics with examples.

21 Write synthesis and uses of halothane and ketamine hydrochloride.

22 Write structure and uses of following drugs

(A) aspirin (B) mefenamic acid (C) ibuprofen (D)acetaminophen (E) diclofenac.

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Code. No: 6058/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Suppl.) Examination, February 2020

Subject : Pharmacology-I

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 biological half life. It's importance
2. Explain the concept of bioavailability.
3. What is dose response relationship? What are its advantages?
4. Write a note on therapeutic index.
5. Mention various therapeutic uses of β-adrenergic blockers.
6. Write the pharmacology of skeletal muscle relaxants.
7. Describe the stages of general anesthesia.
8. What is dry abuse give two example
9. Explain the role of serotonin in brain.
10. Mention the therapeutic uses and adverse reactions of tricyclic antidepressants.

PART- B (2 × 10 = 20 Marks)

11. Classify drugs used in Alzheimer's disease and explain the mechanism of action, adverse reactions and therapeutic uses of cerebroselectiveanticholineterases.
12. Explain the pharmacological actions and therapeutic uses of the following:
    a) Acetylcholinesterase inhibitors
    b) Adrenergic drugs
13. Define Epilepsy. Classify antiepileptic drugs. Write the mechanism of action, adverse effects and therapeutic uses of hydantoins.

PART- C (7 × 5 = 35 Marks)

14. Explain in detail about phase-I biotransformation of drugs with examples.
15. Discuss the factors modifying drug action.
16. Describe the pharmacokinetic drug interactions.
17. Explain the pharmacological actions of atropine.
18. Mention the mechanism of action and uses of local anesthetic agents.
19. Write the pharmacological actions and uses of benzodiazepines.
20. Explain the pharmacological actions of alcohol.
21. Describe the drug addiction and drug abuse.
22. Discuss the mechanism of action and uses of morphine.

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Code. No: 6057/PCI

FACULTY OF PHARMACY

B. Pharm IV-Semester (PCI) (Suppl.) Examination, January 2020

Subject : Physical Pharmaceutics-II

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 Differentiate lyophilic and lyophobic colloid
2 What is importance of Gold number in colloid.
3 What is sedimentation volume and degree of flocculation.
4 Write the factors influencing particle settling in suspension.
5 What is Ostwald ripening in suspensions.
6 What is multiple emulsion.
7 Write the importance of Heckle plots.
8 What is Newtonian flow and mention example.
9 Write the preventive measures for photolytic degradation.
10 What is half life & shelf life of drug.

PART- B (2 x 10 = 20 Marks)

11 Write the principle and working of capillary, falling sphere and rotational viscometers.
12 Explain the derived properties of powders and approaches to determine flow properties of powders.
13 Explain the accelerated stability studies along with determination of expiry date.

PART- C (7 x 5 = 35 Marks)

14 Describe kinetic and electrical properties of colloids?
15 Write the effect of electrolytes on lyophobic colloid.
16 Write the preparation methods for colloids.
17 Describe the stress and strain relationships in solid deformation.
18 Explain the theories of emulsification.
19 Describe interfacial properties of suspended particles.
20 Explain the procedure to determine the particle size by conductivity.
21 Explain the various approaches to determine particle number.
22 Write the preventive measures for chemical degradation of drug product.

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Code. No: 6055/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Suppl.) Examination, January 2020

Subject : Pharmaceutical Organic 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. Differentiate Enantiomers and Diastereomers.
2. Explain DL – systemof Nomenclature.
3. Draw the conformational isomers of ethane and cyclohexane.
4. Define and classify Heterocyclic compound.
5. Give reason for electrophilic substitution at 2nd position in pyrrole
6. Explain the basicity of Pyridine
7. Draw the structures of Isoquinoline and Indole.
8. Give the structures of Pyrimidine and Azepine.
9. Give any two application of Sodium borohydride.
10. Give any two application of Lithium Aluminiumhydride.

PART- B (2 × 10 = 20 Marks)

11. What are sequence rules and explain the RS system of nomenclature of Optical isomers.
12. Write the mechanism involved in Beckmann and Schmidt rearrangement
13. Write any two synthesis, reactions and medicinal uses of pyrazole and oxazole.

PART- C (7 × 5 = 35 Marks)

14. Write a note on racemic modification
15. Write a note on asymmetric synthesis
16. Explain Stereoisomerism in biphenyl compounds and give the conditions for optical activity.
17. Give the significance of stereospecific and stereoselective reactions
18. Write any two synthesis, reactions and medicinal uses of pyrrole.
19. Write any two synthesis, reactions and medicinal uses of lmidazole
20. Write the mechanism involved in Oppenauer oxidation
21. Write the mechanism involved in Wolf-Kishner rearrangement.
22. Draw the structures of pyridine, quinolone, Acridine and indole. Write any two synthesis, reactions and medicinal uses of thiophene or thiazole.

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Code No. 6011/CBCS

FACULTY OF PHARMACY

B. Pharmacy II-Semester (CBCS) (Backlog) Examination, January 2020

Subject: Communicative English

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

PART – A (4 x 5 = 20 Marks)

1. Write about group communication and verbal communication.

OR

2. Interpersonal Communication is an important area of communication.

3. How to greet and introduce oneself and others?

OR

4. Discuss the types methods of learning and listening.

5. Define notice and describe the importance with the help of a model notice.

OR

6. Explain the basic principles we need to remember while writing a paragraph.

7. How do you conduct a seminar/Conference?

OR

8. Explain the role of wit and humor in communication.

PART – B (4 x 5 = 20 Marks)

9. Give the synonyms for the following:
   (a) Perplexity
   (b) Inevitable
   (c) Hinder
   (d) Consequence
   (e) Disgrace

OR

10. Give the antonyms for the following:
    (a) Urban
    (b) Strict
    (c) Preliminary
    (d) Precede
    (e) Prosperity

11. One word substitutes:
    (a) Sanctuary
    (b) Enigma
    (c) Zealous
    (d) Pessimist
    (e) Unanimous

OR

12. Rewrite the sentences as directed:
    a) The trail___(go) on for two years. (use appropriate form of verb)
    b) The boss said to him, “Please bring the files.” (change in to direct speech)
    c) What happens to all money he earns is a mystery to us? (use appropriate article)
    d) I was amazed _____ his dance performance. (use appropriate preposition)
    e) They paid him handsome salary. (Change into passive voice)

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PART – C (5 x 6 = 30 Marks)

13. What is the meaning of 'Civilized' according to CEM Joad in "our own civilization".

OR

14. What are the defects of our own civilization?

15. What did Andrew Carnegie learn from his parents?

OR

16. How was Carnegie a huge success as steel king?

17. Write the summary of "The generation gap" in your own words.

OR

18. Why do some boys turn their irritation towards their mothers?

19. What was the teaching of Swami Vivekananda regarding 'work'?

OR

20. How can one not be touched by sin in' the secret of work

21. Write a letter of application for the post of computer analyst in a software company.

OR

22. Explain the procedure for writing project reports.

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Code. No: 6059/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Suppl.) Examination, January 2020

Subject : Pharmacognosy and Phytochemistry-I

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. Define pharmacognosy, organized and unorganized crude drugs
2. What are tannins and write the identification test for tannins
3. What are ash values and write their importance
4. Write the chemical tests for acacia and agar
5. Write the biological source and uses of castor oil
6. What are flavonoids and give examples
7. Write the uses of urokinase and streptokinase
8. What are the various sources of drugs
9. What are natural allergens and give examples
10. Write the difference between fats and waxes

PART- B (2 × 10 = 20 Marks)

11. Define evaluation. Explain about microscopic evaluation
12. Give the list of various classification methods. Explain about the chemical and pharmacological classification methods with suitable examples
13. What are various types of cultures in plant tissue culture and write in brief about any two types of cultures

PART- C (7 × 5 = 35 Marks)

14. What is adulteration. Describe different types of adulteration in crude drugs with suitable examples
15. Explain the role of polyploidy and hybridization techniques in cultivation of medicinal Plants.16. What are proteolytic enzymes. Write the source, preparation and commercial utility of Papain.
17. Write the source and chemical tests for cotton and jute
18. What are plant hormones and write their applications
19. Define and classify alkaloids and write the identification tests for alkaloids
20. Write the source, chemical constituents and uses of Tragacanth and Wool fat
21. What are nutritional requirements in plant tissue culture
22. Write the importance and method of determination of moisture content.

Code No. 6010/CBCS

FACULTY OF PHARMACY

B. Pharmacy II – Semester (CBCS) (Backlog) Examination, January 2020

Subject: Basic Computer Applications-II

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. a) Discuss about structure of C program.
   b) Discuss about storage classes.

   OR

   c) Explain the Data types in C language.
   d) Write header files and free-defined functions in C language.

2. a) Explain difference between while, do-while and For loop.
   b) Discuss about switch case with example.

   OR

   c) Explain the following:
   (i) Conditional operator (ii) Arithmetic operator (iii) Assignment operator

3. a) Discuss database development life cycle (DDLC)
   b) Discuss traditional file based system and limitations.

   OR

   c) Explain relational data base with ER-model diagrams

4. a) Explain difference between GRANT and REVOKE.
   b) Explain difference among the Delete, Drop and Truncate.

   OR

   c) Write insert, update, select, rename and alter commands in SQL.

5. a) Discuss about big data.
   b) Explain chemsketch and chemdraw.

   OR

   c) Explain the process of data analysis.
   d) Explain chemical database design & their tools.

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Code No. 6173/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 4/4 II-Semester (Non-CBCS) (Backlog) Examination, January 2020

Subject: PHARMACOINFORMATICS

Time: 3 Hours **Max. Marks: 70**

Note: Answer all questions. All questions carry equal marks.

1. (a) Write a note on the following 3.5x4=14
   (i) Sequence and Structural databases (ii) Sequence Analysis
   (iii) Data mining and KDD (iv) Biological Databases

   OR

   (b) Write a note on
   (i) Bibliographic databases and library catalogs
   (ii) Database Architecture (iii) Database Normalization 5+4+5

2. (a) What is sequence alignment? Explain Dynamic programming method for sequence alignment of proteins and nucleic acids.

   OR

   (b) Write a note on (i) Hidden Markov model construction and applications 8+3+3
   (ii) Search machines (iii) BIO-PERL

3. (a) Explain Drug information resources and their advantages, disadvantages with examples. 10
   (b) Write a note on databases useful for emergency treatment of poisoning. 4

   OR

   (c) What is pharmacy automation? Write its applications in automated medication dosage, filling and packing. 9
   (d) Write about management and Inventory control. 5

4. (a)What are the biological databases? Write its importance. 4
   (b) What is DNA sequencing? Write about Maxam Gilbert method and Sanger methods for DNA sequencing. 10

   OR

   (c) Write about the following protein databases and their importance 9
   (i) Swissport (ii) PDB (iii) CATH databases
   (d) Write a note on BLAST. 5

5. (a) Describe Free-Wilson and Hansch Methods of Analysis for drug design. 10
   (b) Write a note on energy minimization.

   OR

   (c) Explain the theories of drug receptor interactions. 7
   (d) Write a note on (i) Molecular Dynamic simulations (ii) Docking. 6

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Code. No: 13194/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main) Examination, August 2019

Subject : Pharmacognosy and Phytochemistry-I

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. Define organized and unorganized crude drugs and give one example for each
2. What is organoleptic evaluation
3. Give the list of plant hormones and write any four applications of plant hormones
4. What is polyploidy and write its application in cultivation of medicinal plants
5. What are edible vaccines
6. Define alkaloids and write any two identification tests for alkaloids
7. Define and classify tannins
8. Write the source and test for purity of honey
9. Write the uses of gelatin
10. What are various proteolytic enzymes and write the uses of streptokinase.

PART - B (2 × 10=20 Marks)

11. Explain about physical evaluation of crude drugs
12. Write about factors influencing cultivation of medicinal plants
13. Write the biological source, preparation and commercial utility of any three proteolytic Enzymes.

PART - C (7 × 5 = 35 Marks)

14. Write the applications of plant tissue culture
15. Write in brief about morphological and chemical classification of crude drugs
16. What are lipids. Classify them and write about castor oil
17. Write the source, chemical nature and uses of cotton and jute
18. Write a brief note on novel medicinal agents from marine sources
19. Explain about nutritional requirements in plant tissue culture
20. Define and classify glycosides and write their properties
21. Write the biological source, chemical constituents and uses of agar and bees wax
22. Explain about lycopodium spore method.

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Code. No: 13193/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main) Examination, July / August 2019

Subject : Pharmacology-I

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 first pass metabolism. Give two examples.
2. Mention about enzyme inhibition.
3. What is vasomotor reversal of Dale?
4. Give the differences between local anesthetics and general anesthetics.
5. Define epilepsy and write the Structure of phenytoin
6. What is sedative and hypnotic Give examples
7. Enlist the drugs used in myasthenia gravis.
8. What is drug abuss. Give two examples.
9. Mention the clinical uses of naltrexone.
10. Name excitatory neurotransmitters present in CNS.

PART-B (2 × 10 = 20 Marks)

11. a) Write the pharmacological actions of acetylcholine.
    b) Explain the various therapeutic uses and adverse reactions of β-adrenergic blockers.
12. Classify anti-epileptic agents and explain the mechanism of action and therapeutic uses of any two classes of drugs.
13. Define Parkinsonism. Classify anti-Parkinson's drugs with examples? Write the mechanism of action and therapeutic uses of MAO inhibitors.

PART-C (7 × 5 = 35 Marks)

14. Compare the merits and demerits of oral and parenteral routes of administration.
15. Explain in detail about G-protein coupled receptors.
16. Discuss the phases of clinical trials.
17. Explain the pharmacological actions and therapeutic uses of acetylcholinesterase inhibitors.
18. Define myasthenia gravis. Enlist the drugs used in its treatment.
19. Write about the pre-anesthetics.
20. Write the mechanism of action and uses of disulfiram.
21. Explain the drug tolerance and dependence.
22. Write a short note on nootropics.

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Code. No: 13192/PCI

FACULTY OF PHARMACY

B. Pharm IV-Semester (PCI) (Main) Examination, July / August 2019

Subject : Physical Pharmaceutics-II

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. Classify colloids with examples.
2. What is HLB mention HLB Value ranges for any four surfactants
3. What is balk density? How it is useful in pharmacy
4. What is micro emulsion and mention its advantages.
5. What is angle of repose and mention its significance.
6. What is thixotropy. Explain with examples
7. Classify non-Newtonian systems with examples.
8. What is specific viscosity and mention its importance.
9. List the physical factors affecting degradation of drug product.
10. What are the equations for half-life and shelf life.

PART - B (2 x 10 = 20 Marks)

11. Explain different optical properties of colloids with help of diagrams and equations.
12. Explain different methods to determine the surface area of pharmaceutical powders.
13. Describe the factors affecting stability of drug product.

PART- C (7 x 5 = 35 Marks)

14. Write the effect of electrolytes on lyophilic colloid.
15. Write the formulation of flocculated and deflocculated suspensions.
16. Explain the formulation of emulsion by HLB method.
17. What is thixotropy explain with Rheograms.
18. Explain the plastic and elastic deformation of solids during compression
19. Explain the procedure to determine the particle size by microscopy.
20. What is porosity and mention the significance of Heckle plots.
21. Explain the factors improving the stability of emulsions.
22. Explain the methods to determine order of reactions.

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Code No. 13191/PCI

FACULTY OF PHARMACY

B. Pharmacy IV Semester (PCI) Main Examination, July 2019

Subject: Medicinal Chemistry – I

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

Note: Answer ALL questions from PART-A, any TWO questions from PART-Band any SEVEN questions from PART-C.

PART – A (10 x 2 = 20 Marks)

1. Define hydrogen bonding and its effect on biological activity of drugs.
2. Mention phase –II reactions?
3. Write any two applications of cholinesterase inhibitors with example of drugs .
4. Write the synthesis of propranolol.
5. Define adrenergic antagonists with examples.
6. Explain cholinergic blocking action with an example of drug.
7. Give the synthesis of phenytoin.
8. Define antipsychotics with examples.
9. Give the structures for fentanyl citrate and methadone hydrochloride.
10. Give the structures for aspirin and antipyrine.

PART – B (2 x 10 = 20 Marks)

11. Define and give the significance of the following physicochemical parameters on biological activity (3+3+4)
    (a) Ionization (b) Chelation (c) Protein binding.

12. (a) Write in detail about MOA of Parasympathomimetics. (5)
    (b) Classify antiinflammatory agents with examples. (5)

13. (a) Write a note on SAR of benzodiazepines. (5)
    (b) Write the synthesis and uses of barbital and carbamazepine. (5)

PART – C (7 x 5 = 35 Marks)

14. Explain the significance of bioisosterism in relation to biological activity with examples.
15. Write a note on biosynthesis and catabolism of Catecholamines.
16. Write in detail about SAR of beta blockers.
17. Classify sympathomimetics with examples.
18. Write the synthesis of dicyclomine hydrochloride and ipratropium bromide.
19. Write SAR of Parasympathomimetics.
20. Classify anticonvulsants with examples.
21. Give an account on general anesthetics.
22. Discuss in detail about SAR of morphine analogues.

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Code. No: 13190/PCI

FACULTY OF PHARMACY

B. Pharmacy IV-Semester (PCI) (Main) Examination, July / August 2019

Subject : Pharmaceutical Organic 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 about any two elements of symmetry
2. Draw the conformational isomers of n-butane and cyclohexane.
3. Give conditions for optical activity.
4. Explain DL-system of Nomenclature.
5. Define and classify Heterocyclic compound.
6. Give reason for electrophilic substitution at 2^{nd} position in pyrrole.
7. Draw the structures of Pyrazole and Imidazole.
8. Draw the structures of Pyrimidine and oxazole.
9. Give any two application of Sodium borohydride.
10. Give any two application of Lithium Aluminiumhydride.

PART- B (2 × 10 = 20 Marks)

11. What are sequence rules and explain the RS system of nomenclature of Optical isomers.
12. Write the mechanism involved in Beckmann and Claisen-Schmidt rearrangement.
13. Write any two synthesis, reactions and medicinal uses of pyrazole and Imidazole.

PART- C (7 × 5 = 35 Marks)

14. Write a note on resolution and reactions of chiral molecule.
15. Write a note on Geometrical isomerism and nomenclature of geometrical isomers.
16. Explain Stereoisomerism in biphenyl compounds and give the conditions for optical activity.
17. Give the significance of stereospecific and stereoselective reactions.
18. Write any two synthesis, reactions and medicinal uses of Furan.
19. Write any two synthesis, reactions and medicinal uses of thiophene.
20. Write the metal hydride reactions of sodium borohydride and lithium aluminium hydride.
21. Write the mechanism involved in Wolf-Kishner rearrangement.
22. Compare and contrast the acidity of pyrole and basicity of pyridine.

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