

**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V – Semester (Backlog) Examination, October 2025**

**Subject : Pharmacognosy and Phytochemistry - II**

**Time: 3 Hours**

**Max. Marks: 75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. What are indole alkaloids? Give examples.
2. Name any two metabolic pathways and draw structures of key intermediates of each.
3. What is autoradiography?
4. Write the source and any two identification tests of benzoin.
5. Give structure and use of any two flavonoids.
6. Name various alkaloids present in Cinchona. Give their uses.
7. Write about colophony.
8. Define chromatography. What are the main types of chromatography.
9. Give four examples of phytochemicals analyzed by TLC.
10. Write principle of extraction techniques.

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Write a note on : (a) Acetate pathway (b) Write a note on forskolin.
12. (a) Draw the structure and write procedure for production, identification and analysis of reserpine.  
(b) Write a detailed note on electrophoresis.
13. (a) Write principle and applications of gas chromatography.  
(b) Explain the principle of IR spectroscopy. Elaborate its application in identification and analysis of phytochemicals.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Explain feeding methods for labeled precursors and sequential analysis in tracer technique.
15. Write histology of coriander and rauwolfia with the help of a diagram.
16. Write substitutes and adulterants of senna and cinnamon.
17. Write chemical tests for pale catechu and black catechu.
18. Write the source, chemistry, industrial production and estimation of artemisin.
19. Write the source, chemical structure of the active constituents and uses of belladonna and gentian.
20. Write pharmacognosy of guggul.
21. Write source, chemistry, identification test and uses of quinine and podophyllotoxin.
22. Write a note on counter current extraction.

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**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V – Semester (Backlog) Examination, September 2025**

**Subject : Pharmacology - II**

**Time: 3 Hours**

**Max. Marks: 75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Define the terms Hypertension and arrhythmia.
2. Differentiate between diuretics and antidiuretics with examples.
3. Classify 5-HT Receptors.
4. Write the applications of bioassay.
5. Write the pharmacological uses of Aspirin.
6. Write the mechanisms of Streptokinase.
7. What is the role of Leukotriene antagonist in treatment of asthma?
8. What are plasma expanders? Mention their uses.
9. What are advantages and disadvantages of insulin?
10. What is cardiac remodeling?

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. What are anticoagulants? Classify them. Write in detail the pharmacology of Heparin.
12. What are Autocoids? Classify them. Write the pathophysiological role of prostaglandins and leukotrienes.
13. What are Oral hypoglycemics? Classify them. Write the mechanism, pharmacokinetics and adverse drug reactions of Biguanides.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. What are vasodilators? Classify and explain their mechanism of action.
15. Write a note on potassium sparing diuretics.
16. What are the functions of Vasopressin? Write a note on its mechanism and uses.
17. Classify antithyroid drugs with examples. Write their mechanism and adverse drug reactions.
18. Classify antihyperlipidemic drugs. Briefly write about the mechanisms and uses statins.
19. Write the bioassay of Insulin.
20. Write a note on advantages and disadvantages of Dextran as plasma expander.
21. Classify anti-Rheumatic drugs. Write about their mechanism and adverse drug effects of each class.
22. Write the Pharmacological actions and adverse effects of Paracetamol.

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**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V – Semester (Backlog) Examination, September 2025**

**Subject : Industrial Pharmacy - I**

**Time: 3 Hours**

**Max. Marks: 75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. What is the use of abrasives in the formulation of toothpastes?
2. What are the different routes of administration for parenteral products?
3. What is partition coefficient? Write its significance.
4. Classify tablets.
5. Write the importance of tablet coating?
6. Define Polymorphism.
7. What are pellets? Write the advantages of pellets.
8. Define Base adsorption.
9. Define suspension and emulsion.
10. Enlist quality control tests for capsules.

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Discuss the parts of tablet punching machine and explain the compression cycle for tablet manufacturing.
12. Discuss the components of aerosol system with the help of neat labeled diagram. Add a note propellants.
13. Explain formulation and the production of parenterals.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Write about water attack test USP and powder glass test USP for packaging glass.
15. Explain hardness and friability testing of tablets.
16. Write briefly about perforated coating pans.
17. Write a note on LAL test & sterility test.
18. Discuss the importance of fine particle characterization in preformulation studies.
19. Discuss the method of preparation of hard gelatin capsule shell.
20. Define cosmetics, classify them, and give their uses.
21. Write a note on pelletization process.
22. Write the formulation of cold cream.

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**FACULTY OF PHARMACY****B. Pharmacy (PCI) V – Semester (Backlog) Examination, September 2025****Subject : Medicinal Chemistry - II****Time: 3 Hours****Max. Marks: 75****PART - A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Write the structure and mechanism of action of Omeprazole.
2. Write the structures of oestrone and diethylstilbestrol.
3. Give the mechanism of action of Lovastatin.
4. Write the uses of Cetirizine.
5. Mention various classes of diuretics.
6. Write the drugs used in congestive heart failure.
7. What are coagulants? Give examples.
8. Write the structures and uses of lidocaine and dibucaine.
9. Write the uses of Testosterone and Progesterone.
10. Write the functions of thyroid hormones.

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

11. (a) Classify oral hypoglycemic drugs with one structure from each class.  
(b) Write a note on anti arrhythmic agents.
12. (a) Classify H<sub>1</sub>-antagonists with two structures from each class.  
(b) Classify antimetabolites. Explain the mechanism of action and synthesis of methotrexate.
13. Give the synthesis, mechanism of action and uses of  
(a) Chlorothiazide (b) Tolbutamide.

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

14. Discuss SAR of local anesthetics.
15. Write in detail about oral contraceptives with structures.
16. Write a note on thyroid and anti-thyroid drugs.
17. Classify anti-hyperlipidemic agents with one structure from each class.
18. Write the classification of ACE inhibitors, mechanism of action, uses with examples.
19. Give an account on anticoagulants. Give the synthesis of warfarin.
20. Write the mechanism of action of vasodilators and outline the synthesis of nitroglycerin.
21. Give the synthesis, mechanism of action and uses of Furosemide.
22. Write the classification of antineoplastic agents with one example each.

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**FACULTY OF PHARMACY**

**B. Pharmacy V - Semester (PCI) (Backlog) Examination, September / October 2025**  
**Subject: Pharmaceutical Jurisprudence**

**Time: 3 Hours**

**Max. Marks: 75**

**PART – A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Define the terms (i) Misbranded drugs (ii) Spurious drugs
2. Write the objectives of pharmacy act, 1948?
3. Write the constitution of state pharmacy council?
4. What are Schedule H, Schedule N, Schedule X and Schedule P?
5. What is the role of government analyst?
6. What are the objectives of Drugs and Cosmetics Act 1940?
7. Write a short note on Drug consultative Committee?
8. Define narcotic drugs and psychotropic substances?
9. Define trade mark, patent?
10. Differentiate between laws and ethics?

**PART – B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Write about the official procedures for cultivation, production of opium, Sales and distribution of opium products.
12. Write the constitution and functions of pharmacy council of India.
13. (i) Explain about the medical termination of pregnancy act?  
(ii) Explain the right to information act?

**PART – C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. What kind of advertisements are prohibited under the Drugs and Magic Remedies Act 1954.
15. Differentiate between Manufacture in bond and Manufacture outside bond?
16. Describe wholesale, retail and restricted licenses for sale of drugs?
17. Write the Labeling requirements for  
(i) Ophthalmic preparations (ii) Schedule X drugs?
18. Explain CPCSEA guidelines for Laboratory animals?
19. Discuss the provisions of Drug price control order?
20. Discuss the ethics of pharmacist should observe in relation to his trade and the medical profession?
21. What are the qualifications and functions of drug inspector?
22. Explain the objectives and scope of pharmaceutical legislation in India?

**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V - Semester (Main & Backlog) Examination, March 2025**

**Subject: Medicinal Chemistry-II**

**Time: 3 Hours**

**Max. Marks: 75**

**PART – A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Write the uses and mechanism of action of acetazolamide.
2. Explain anti-hyperlipidemic agents with examples.
3. Write the structure and uses of diethylstilbestrol.
4. Write the synthesis of warfarin.
5. Write the uses and mechanism of action of digitoxin.
6. Write the structure of betamethasone and dexamethasone.
7. Write the mechanism of action of bleomycin.
8. Write the uses and MOA of sildenafil.
9. Write the structure of testosterone and progesterone.
10. Explain loop diuretics.

**PART – B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Write the chemical classification (with structures) and SAR of H<sub>1</sub>-antihistaminic agent.
12. Define antineoplastic agents. Write its classification (with structures) and detailed mechanism of action of each class.
13. Classify Local anesthetics. Explain the mechanising action & SAR.

**PART – C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Discuss in detail about proton pump inhibitors along with mechanism of action.
15. Explain the stereo chemistry of steroids.
16. What is diabetes? Classify antidiabetics with examples and give their mechanism of action.
17. Write the short note on anti-arrhythmic agents.
18. Explain in detail about coagulants and anticoagulants.
19. Write the synthesis of nitroglycerin and methyl dopa.
20. Write short notes on oral contraceptives.
21. Write the structure and uses of L-thyroxine, L-thyronine, propylthiouracil, methimazole.
22. Define and classify diuretic agents. Write the mechanism of action of thiazide diuretics.

**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V - Semester (Main & Backlog) Examination, March 2025**

**Subject: Pharmaceutical Jurisprudence**

**Time: 3 Hours**

**Max. Marks: 75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Define Loan license and repacking license.
2. What are the labelling instructions for Schedule X drugs.
3. Write the role of Drug Inspector.
4. Define Narcotic drugs and psychotropic substances.
5. Write the objectives of DPCO (Drug Price Control Order).
6. Write the constitution of Institutional Animal Ethics Committee.
7. Write the functions of the government Analyst.
8. Define patent.
9. Define medicinal hemp and poppy straw.
10. What is schedule N and its requirements?

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Explain the legal procedure for cultivation, production, manufacturing and sale of opium.
12. Describe the salient features, prohibited advertisements, exempted advertisements of drugs as per magic remedies act.
13. Explain the objectives and write about the constitution and functions of Pharmacy council of India (PCI) under Pharmacy Act-1948.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Write a note on Central drugs laboratory.
15. Discuss the layout and construction of Bonded laboratory.
16. Write a short note on Drug Enquiry Committee.
17. Define Narcotic drugs and psychotropic substances as per Act. Explain the offence and Penalties as per act.
18. Define the term Advertisement and Magic remedies. Explain prohibited advertisement as per act.
19. Write a note on CPCSEA guidelines for experiments on animals.
20. Write the procedure for obtaining a manufacturing license for schedule C, C1 drugs.
21. Write a note on National list of Essential Medicines (NLEM).
22. Write a note on Drug Price Control Order.

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**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V - Semester (Main & Backlog) Examination, March 2025**  
**Subject: Pharmacognosy & Phytochemistry – II**

**Time: 3 Hours**

**Max.Marks:75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Write the applications of tracer technique.
2. Write about autoradiography.
3. Give the source and chemical structure of artemisin.
4. Describe the source and chemical test for Aloes.
5. Write the importance of spectroscopy.
6. Define chromatography.
7. Define alkaloids and steroids.
8. Write the biological source of Digitalis and Liquorice.
9. Describe the gold beaters skin test and muroxide test.
10. Give the source and mechanism of action of taxol.

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Define and write the principles of extraction. List the extraction techniques and describe any three methods with merits and demerits.
12. Write the source, isolation and estimation of Quinine and caffeine.
13. What are volatile oils and classify. Discuss the methods of volatile oil extraction.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Write the source, chemistry and therapeutic uses of Opium.
15. What are resins? Give the source and uses of Asafoetida colophony.
16. Describe the source, chemical structure, uses and isolation of forskolin.
17. Discuss the principle and applications of HPLC and HPTLC.
18. Give an informative note on electrophoresis.
19. Describe the specific chemical test for steroids, flavonoids and alkaloids.
20. Write the estimation of artemisin and digoxin.
21. Write the applications of IR and UV spectroscopy.
22. Write the source and chemical structure of diosgenin, podophyllotoxin and Reserpine.



**FACULTY OF PHARMACY**

**B. Pharm (PCI) V - Semester (Main & Backlog) Examination, March 2025**

**Subject: Pharmacology-II**

**Time: 3 Hours**

**Max. Marks: 75**

**PART - A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Explain the MOA of digoxin.
2. What are antiarrhythmic drugs and give examples?
3. What are the therapeutic uses of vit k?
4. Define and write the therapeutic uses of fibrinolytics.
5. Give examples and write the therapeutic uses of 5-HT<sub>3</sub> antagonists.
6. What is thyroxine and write its therapeutic uses.
7. What are the therapeutic uses of prostaglandin analogs?
8. What are anabolic steroids and write their therapeutic uses?
9. Define bioassay. List out the types of bioassays.
10. Classify the drugs used for gout.

**PART - B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. (a) Define and classify antihypertensives.  
(b) Write the mechanism of action, adverse drug reactions and therapeutic uses of ACE inhibitors.
12. (a) Define and classify Oral hypoglycemic agents.  
(b) Write notes on insulin preparations.
13. What are the methods of bioassay of insulin? Discuss any two methods in detail.

**PART - C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Classify antianginal drugs. Write the therapeutic uses of organic nitrates.
15. Classify antihyperlipidemic. Discuss about statins.
16. Write short notes on hematinics.
17. Classify diuretics. Write the MOA and therapeutic uses of loop diuretics.
18. Classify autocooids and write the pharmacology of histamine.
19. Write the pharmacological actions and therapeutic uses of thyroid hormones.
20. Write short notes on antirheumatic drugs.
21. Write notes on oral contraceptives
22. Classify NSAIDS with examples.

**FACULTY OF PHARMACY**

**B. Pharmacy (PCI) V - Semester (Main & Backlog) Examination, March 2025**

**Subject: Industrial Pharmacy-I**

**Time: 3 Hours**

**Max. Marks: 75**

**PART – A**

**Note: Answer all the questions.**

**(10 x 2 = 20 Marks)**

1. Define Preformulation.
2. What is BCS classification of drugs?
3. Differentiate D tooling and BB tooling.
4. Describe identifying tests for type of emulsion.
5. Write a note on Bloom Strength.
6. Write the differences between type A and type B gelatin.
7. Differentiate small volume parenterals and large volume parenterals.
8. What is Aseptic area?
9. Describe types of Glass used for packaging of pharmaceutical products.
10. Define and classify cosmetics.

**PART – B**

**Note: Answer any two questions.**

**(2 x 10 = 20 Marks)**

11. Describe production of hard gelatin capsule shell and filling of hard gelatin capsules.
12. Explain formulation and production of parenterals.
13. Describe Quality control tests for Tablets.

**PART – C**

**Note: Answer any seven questions.**

**(7 x 5 = 35 Marks)**

14. Describe methods to study solid forms.
15. Write a note on determination of partition coefficient and its significance.
16. Describe different types of coating of tablets.
17. Explain formulation considerations of liquid dosage forms.
18. Write in detail about extrusion-spheroniation technique.
19. Write a note on propellants in Aerosols.
20. Explain the process of Freeze drying.
21. Describe the formulation and preparation of Shampoos.
22. Describe factors influencing choice of containers for pharmaceutical products packaging.

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