



**AUTUMN END SEMESTER EXAMINATION-2025**  
**5<sup>th</sup> Semester B.Pharm**

**MEDICINAL CHEMISTRY-II**  
**BP 501T**

**(For 2023 Admitted Batch)**

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,  
any SEVEN from Part-B and any TWO from Part-C.  
The figures in the margin indicate full marks.  
All parts of a question should be answered at one place only.*

**PART-A**

1. Objective Answer Type Questions (Answer All) [2 × 10]
- (a) Compare between L-Thyroxine and L-Thyronine. (2)
  - (b) Give the synthesis of nitroglycerine. (2)
  - (c) Write the conduction of impulse through the myocardial tissue. (2)
  - (d) Write the mechanism of action of Clonidine. (2)
  - (e) Give the structural difference between digitoxin and digoxin. (2)
  - (f) Mention the three essential structural components of a local anesthetic. (2)
  - (g) Define and classify angina. (1+1)
  - (h) Give two examples of voltage gated sodium channel blockers and write their uses. (1+1)
  - (i) Name two natural corticosteroids and write their uses. (1+1)
  - (j) Define QRS complex. (2)

## PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5× 7]
- (a) Write the mechanism of action of Proton pump inhibitors with example and its use. (3+2)
  - (b) Explain Isosorbide Dinitrate Synthesis and its uses. (3+2)
  - (c) Short note on bile acid sequestrants. (5)
  - (d) Write mechanism and uses of Warfarin. (3+2)
  - (e) Write a short note on calcium channel blockers as anti-anginal agents. (5)
  - (f) Write the structure of Diethylstilbestrol, Disopyramide phosphate, Procaine, Tolbutamide, furosemide. (1+1+1+1+1)
  - (g) Write mechanism of action and pharmacological uses of Vincristine. (5)
  - (h) Briefly discuss HMGCoA reductase inhibitors with example. (5)
  - (i) Explain the Stereochemistry of steroids. (5)

## PART-C

### Long Answer Type Questions (Answer Any Two)

3. Classify diuretics with example. Explain the mechanism of action of each class of drugs. [4+6]
4. Discuss the synthesis of acetazolamide, Dibucaine, and write their uses. [8+2]
5. Give classification of anti-neoplastic agents with examples. Describe mechanism of action and uses of alkylating agents [4+4+2]

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Semester: 5<sup>th</sup>  
Programme: B.Pharm

**AUTUMN END SEMESTER EXAMINATION-2025**  
**5<sup>th</sup> Semester B.Pharm**  
**INDUSTRIAL PHARMACY-I**  
**BP 502T**

**(For 2023 Admitted Batch)**

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,  
any SEVEN from Part-B and any TWO from Part-C.  
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All parts of a question should be answered at one place only.*

**PART-A**

1. Objective Answer Type Questions (Answer All) [2 × 10]
  - (a) What is polymorphism? Give two examples of polymorphic substance. (1+1)
  - (b) What is racemisation? Write its role in pre-formulation study. (1+1)
  - (c) What is Tablet tooling? Write its types. (1+1)
  - (d) What is orange peel effect? How it can be overcome? (1+1)
  - (e) Differentiate syrup and elixir. (2)
  - (f) What is bloom strength? Write its application in Pharmacy. (1+1)
  - (g) What are MUPS? (2)
  - (h) What is LAL test? (2)
  - (i) What is propellant? Give two-examples of topical used propellant. (1+1)
  - (j) What are basic components of lipstick? (2)

## PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Write the Formulation and method of preparation of shampoo. (2.5+2.5)
  - (b) Write the basic formulation consideration of ophthalmic products. (5)
  - (c) Write the Quality control tests of parenteral products. (5)
  - (d) Briefly describe the various granulation methods for the manufacturing of Tablets. (5)
  - (e) Briefly describe the formulation and manufacturing consideration of emulsion. (5)
  - (f) Describe the formulation composition and their roles for the soft gelatine capsule. (2+3)
  - (g) Describe various methods of pellets preparation. (5)
  - (h) Write a short note on aerosol container. (5)
  - (i) Briefly describe the various pharmaceutical packaging materials. (5)

## PART-C

### Long Answer Type Questions (Answer Any Two)

- 3. Write a detail note on formulations and evaluations of Pharmaceutical aerosol. [5+5]
- 4. Write a detail note on various evaluations of Tablet. Describe the sugar coating of Tablet. [6+4]
- 5. Describe in detail on various pre-formulation parameters of drug substance. [10]

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**AUTUMN END SEMESTER EXAMINATION-2025**

**5<sup>th</sup> Semester B.Pharm**

**PHARMACOLOGY-II**

**BP 503T**

**(For 2023 Admitted Batch)**

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,  
any SEVEN from Part-B and any TWO from Part-C.  
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**PART-A**

1. Objective Answer Type Questions (Answer All) [2 × 10]
  - (a) Name antihypertensive drugs that is contraindicated during pregnancy. (2)
  - (b) Define refractory period. (2)
  - (c) What is Torsa de point? Write down the drugs used for it's treatment. (2)
  - (d) Write down the ideal characteristics of a plasma volume expander. (2)
  - (e) What is triple response of histamine? (2)
  - (f) Define COX-II inhibitors with examples. (2)
  - (g) What is rapid acting Insulin Preparations? Give two examples. (1+1)
  - (h) Classify anti-rheumatic drugs with examples. (2)
  - (i) Write the clinical use of clomiphene citrate and atosiban. (2)
  - (j) What is mineral corticoids? Write two examples of mineral corticoids. (1+1)

## PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Write a note on electrophysiology of heart. (5)
  - (b) Classify Antihyperlipidemic drugs with examples and discuss the pharmacology of atorvastatin. (2+3)
  - (c) Write a note on high ceiling diuretics. (5)
  - (d) Describe the mechanism action, adverse effects and therapeutic uses of heparin. (3+1+1)
  - (e) Discuss the agonist, antagonist and pharmacology of 5-HT. (5)
  - (f) Explain the Pharmacology of Aspirin. (5)
  - (g) Outline the pharmacology of propylthiouracil. (5)
  - (h) Explain the classification and mechanism of action of oral contraceptives. (5)
  - (i) Discuss the pharmacology of drugs used for the treatment of erectile dysfunction. (5)

## PART-C

### Long Answer Type Questions (Answer Any Two)

- 3. Classify the drugs used for the treatment of CHF. Explain the mechanism of action, adverse effects and drug interactions of cardiac glycosides. [2+8]
- 4. Discuss the classification and pharmacology of oral hypoglycemic agent in detail. [2+8]
- 5. Describe the principles and applications of bioassay. Explain the bioassay of Insulin. [5+5]

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Semester: 5<sup>th</sup>  
Programme: B.Pharm

**AUTUMN END SEMESTER EXAMINATION-2025**  
**5<sup>th</sup> Semester B.Pharm**  
**PHARMACOGNOSY AND PHYTOCHEMISTRY II**  
**BP 504T**

**(For 2023 Admitted Batch)**

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,  
any SEVEN from Part-B and any TWO from Part-C.  
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**PART-A**

1. Objective Answer Type Questions (Answer All) [2 × 10]
  - (a) Write the role of radioactive isotopes in biogenetic studies. (2)
  - (b) Enlist chemical constituents of Rauwolfia and Tea. (1+1)
  - (c) Name two alkaloids having Indole as the heterocyclic ring. (1+1)
  - (d) Give the source from which Glycyrrhetic acid is obtained. (2)
  - (e) Discuss mobile phase and detector used in the estimation of podophyllotoxin by HPLC. (1+1)
  - (f) What are the uses of Quinine and Reserpine? (1+1)
  - (g) Define electrophoresis and give its types. (1+1)
  - (h) What is Rutin? Give its class. (1+1)
  - (i) Give the Biological source of Fennel and Clove. (1+1)
  - (j) How chemical shift is measured? (2)

## PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Write a note on Artemisinin: Source, production and uses. (1+3+1)
  - (b) Describe the isolation, identification and analysis of Citral. (3+1+1)
  - (c) Discuss the industrial production, estimation and utilization of Forskolin. (3+1+1)
  - (d) Discuss Belladonna alkaloids with respect to their Bio source, chemistry and therapeutic uses. (2+1+2)
  - (e) Define Extraction, Describe the process of Hot continuous extraction with neat labelled diagram. (1+3+1)
  - (f) Explain the isolation, identification and analysis of Curcumin. (3+1+1)
  - (g) Write the principle and applications of Thin Layer Chromatography (TLC). (3+2)
  - (h) Discuss the industrial method for the production, estimation and utilization of Diosgenin. (3+1+1)
  - (i) Write a note on Opium alkaloids with reference to their bio source, chemical class, and uses. (2+1+2)

## PART-C

### Long Answer Type Questions (Answer Any Two)

- 3. Describe the Shikimic Acid Pathway and its significance in the biosynthesis of secondary metabolites. (6+4)
- 4. Discuss the biological source, structure, industrial production, estimation, utilization of Sennosides. (1+1+4+2+2)
- 5. Define Chromatography, Enlist the various chromatographic technique and Explain in detail about the procedure of HPLC with a neat labelled diagram. (1+2+5+2)

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Semester: 5<sup>th</sup>  
Programme: B.Pharm

**AUTUMN END SEMESTER EXAMINATION-2025**  
**5<sup>th</sup> Semester B.Pharm**

**PHARMACEUTICAL JURISPRUDENCE**  
**BP 505T**

**(For 2023 Admitted Batch)**

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,  
any SEVEN from Part-B and any TWO from Part-C.  
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All parts of a question should be answered at one place only.*

**PART-A**

1. Objective Answer Type Questions (Answer All) [2 × 10]
- (a) Define the term registered pharmacist. (2)
  - (b) What is the purpose of drug legislation? (2)
  - (c) Write difference between offences and penalties. (2)
  - (d) Describe schedule C and C1. (1+1)
  - (e) What is Education Regulation (ER)? (2)
  - (f) Write the difference between misbranded and spurious drugs. (2)
  - (g) What are the punishments under NDPS Act? (2)
  - (h) Write the difference between manufacturing license and loan license. (2)
  - (i) What is Hathi committee? Who was the chairman of Hathi committee? (1+1)
  - (j) Define law. Write two importance of pharmaceutical law. (1+1)

## PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5×7]
- Give the offences and penalties as per NDPS act. (2.5+2.5)
  - Write difference between bonded laboratory & non-bonded laboratory. (5)
  - Describe the qualification and power of drug Inspector. (2.5+2.5)
  - Name the categories of drugs and cosmetics are prohibited to be manufactured. (5)
  - Write a short note on the prevention of cruelty to Animals Act, 1960. (5)
  - Describe the Right to information Act briefly. (5)
  - Describe the functions and duties of CDL (central drug laboratory). (2.5+2.5)
  - What are exempted advertisements under drug & magic remedies act, 1954? (5)
  - Explain the role of the mudaliar committee in improving health services and drug control. (5)

## PART-C

### Long Answer Type Questions (Answer Any Two)

- Explain the MTP Act in detail including amendment, indications, consent and approved places. [10]
- Explain about [5+5]
  - Constitutions and functions of PCI.
  - Difference between state and joint state pharmacy council.
- Describe about the import of Drugs in detail as per Drug and Cosmetic Act. [10]

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