**QP Code: 621006** **Reg. No……**

**Sixth Semester B. Pharm Degree Regular/Supplementary Examinations**
**November 2025**
**Medicinal Chemistry III**

# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. a) What are antibiotics. Classify cephalosporins with structural examples
   b) Explain the mechanism of action and chemical degradation of cephalosporins
2. a) Classify antimalarial drugs with structural examples
   b) Describe The Structural Activity Relationship (SAR) of quinoline class of antimalarials

**Short Notes** **(7x5=35)**

3. Explain the Structural Activity Relationship (SAR) of penicillin class of antibiotics
4. Explain the applications of Prodrugs
5. Explain the Structural Activity Relationship (SAR) of quinolone class of anti-infective agents
6. Outline the synthesis and mechanism of action of
   a) Paraamino salicylic acid b) Nitrofurantoin
7. Define and classify antifungal drugs
8. Give the synthesis, mechanism of action and uses of diethylcarbamazine citrate
9. Explain the concept and important applications of combinatorial chemistry

**Answer Briefly** **(10x2=20)**

10. What are beta-lactamase inhibitors
11. Explain the mechanism of action of macrolide antibiotics
12. Outline the synthesis of chloramphenicol
13. Give the structures and uses of following
    a) Nalidixic acid b) Acyclovir
14. Give the chemical synthesis of isoniazid
15. Explain the mechanism of action of sulphonamides
16. Give the structures and uses of
    a) Dapsone b) Trimethoprim
17. Explain the importance of partition coefficient in relation to the drug action
18. Define molecular docking and mention their applications
19. Briefly explain the concept of pharmacophore modelling

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**QP Code: 622006** **Reg. No……**

**Sixth Semester B. Pharm Degree Regular/Supplementary Examinations November 2025**
**Pharmacology III**

# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Classify anti-asthmatic drugs. Explain the pharmacology of bronchodilators in detail.
2. Classify anti-viral drugs. Write a note on treatment of HIV.

**Short Notes** **(7x5=35)**

3. Explain the pharmacology of proton pump inhibitors.
4. Classify anti-emetic drugs. Write the mechanism of action of ondansetron.
5. Explain the mechanism of action, adverse effects and uses of fluoroquinolones.
6. Classify anti-tubercular agents. Write a note on multidrug resistance tuberculosis.
7. Write the mechanism of action, uses of cotrimoxazole.
8. Classify antimetabolites. Explain the pharmacology of methotrexate.
9. Describe briefly on monoclonal antibodies with examples.

**Answer Briefly** **(10x2=20)**

10. Write the mechanism of mast cell stabilizers.
11. What are beta lactam antibiotics. Mention any two beta lactam antibiotics.
12. Write the adverse effects of anticancer drugs.
13. Classify antifungal antibiotics.
14. Write any two applications of gene therapy.
15. Write the drugs used for constipation.
16. Write the mechanism of action of macrolide antibiotics.
17. Outline the advantages of respiratory stimulants.
18. Write two uses of appetite stimulants and suppressants.
19. Outline the importance of biosimilars.

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**QP Code: 623006** **Reg. No……**

# Sixth Semester B. Pharm Degree Regular/Supplementary Examinations November 2025
## Herbal Drug Technology
# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Explain good manufacturing practice of Indian System of Medicine.
2. Write in detail about the various herbal formulations.

**Short Notes** **(7x5=35)**

3. Explain briefly biodynamic agriculture.
4. Write a note on schedule Z.
5. Write a brief note on binding agents with examples.
6. Give the biological source, chemical constituents and uses of Honey.
7. Discuss market scenario and scope of nutraceuticals.
8. Write briefly on processing of herbal raw material.
9. Write a note on Unani system of medicine.

**Answer Briefly** **(10x2=20)**

10. Write a brief note on phytosome.
11. Define biopiracy.
12. Write various sources of perfumes.
13. What is herbal drug-food interaction.
14. What are probiotics.
15. What are Lehya.
16. Define biopesticides.
17. Expand ASU, DTAB, DCC.
18. Enlist few colorants used in herbal cosmetics.
19. Name few medicinal plant based institutions.

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# CORRECTION / NO-CORRECTION FILE

**QPCODE: 623006** **Dated: 28-11-2025**

**Question No.6**

**Replaced with "Nutraceutical value of Honey".**

**Extra time of 20 minutes allowed.**

**Corrections/Modifications/Replacement of Questions if any shall be made available to all students. Take the print out of the Correction File in such cases and distribute to all students.**

(Sd/-)

CONTROLLER OF EXAMINATIONS

**QP Code: 624006** **Reg. No……**

**Sixth Semester B. Pharm Degree Regular/Supplementary Examinations November 2025**

**Biopharmaceutics and Pharmacokinetics**

# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Discuss the patient-related factors influencing the absorption of drugs through GIT with examples.
2. What is meant by non linear pharmacokinetics. Explain the Michaelis-Menton method of estimating Km and Vmax.

**Short Notes** **(7x5=35)**

3. Write briefly about in vivo-in vitro correlations and BCS classification.
4. Explain the rate-limiting steps in drug absorption.
5. Write notes on loading dose, maintenance dose, and accumulation index.
6. Explain the one-compartment model following intravenous injection.
7. Discuss various methods involved in the determination of bioavailability.
8. Renal impairment and creatinine clearance.
9. Explain steady-state drug level in one compartment open model continuous intravenous infusion.

**Answer Briefly** **(10x2=20)**

10. Write about the characteristics of pore transport mechanisms.
11. Name the various drug binding sites on HSA with one example each.
12. What are the characteristics of microsomal enzymes.
13. What are the objectives of phase I metabolic reactions.
14. List the factors influencing the renal excretion of drugs.
15. What are the various physiological models.
16. Briefly explain active tubular secretion of drugs.
17. What is active transport.
18. Define volume of distribution.
19. What are the various types of bioequivalence studies.

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# CORRECTION / NO-CORRECTION FILE

**QPCODE: 624006** **Dated: 01-12-2025**

**Question No.5**

**Modified as "Write notes on loading dose and maintenance dose."**

**Corrections/Modifications/Replacement of Questions if any shall be made available to all students. Take the print out of the Correction File in such cases and distribute to all students.**

(Sd/-)

CONTROLLER OF EXAMINATIONS

**QP Code: 625006** **Reg. No……**

**Sixth Semester B. Pharm Degree Regular/Supplementary Examinations November 2025**
**Pharmaceutical Biotechnology**

# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Describe the production of citric acid by fermentation technology.
2. What are biosensors. Explain the types with pharmaceutical applications.

**Short Notes** **(7x5=35)**

3. Describe the production and uses of amylase.
4. List out different blood products and their applications.
5. Write in brief structure and function of MHC.
6. Describe the technique of Polymerase Chain Reaction (PCR).
7. Explain microbial biotransformation with examples.
8. What are restriction enzymes. Explain the types and their role in genetic engineering.
9. What are cloning vectors. Explain the features of any two in detail.

**Answer Briefly** **(10x2=20)**

10. Mutants.
11. Role of immobilized enzyme in microbial biotransformation.
12. What are different types of aerators.
13. List out any four advantages of Enzyme Immobilization.
14. Write any four properties of Immunoglobulin G.
15. Expand ELISA and write two applications.
16. Write the therapeutic uses of plasma substitutes.
17. Write any four pharmaceutical applications of biotechnology.
18. What are the conditions for storage of official vaccines.
19. Write the role of T-lymphocytes cell in immune reaction.

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**QP Code: 626006** **Reg. No……**

**Sixth Semester B. Pharm Degree Regular/Supplementary Examinations November 2025**
**Pharmaceutical Quality Assurance**

# (2017 Scheme)

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

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

**Essays** **(2x10=20)**

1. Define ICH Guidelines, explain the purpose, and a brief overview of QSEM with special emphasis on Q-series.
2. Explain the design, construction, and layout of a pharmaceutical industry.

**Short Notes** **(7x5=35)**

3. Enumerate and describe the steps for registration under ISO 9000.
4. Discuss sanitation and control of contamination.
5. Describe disqualification of testing facilities.
6. Explain the handling of returned goods.
7. Elaborate on the maintenance of stores for raw materials.
8. Explain calibration of pH meter.
9. Discuss the process of analytical method validation.

**Answer Briefly** **(10x2=20)**

10. Define SOP and its importance.
11. What is NABL accreditation.
12. Describe batch formula record.
13. Explain elements of total quality management.
14. Mention the advantages of GLP.
15. Quality control test for rubber closures.
16. What is quality audit.
17. What are the contents of distribution records.
18. Mention the tools for implementing QbD.
19. Write a note on the principles of qualification.

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