QP Code: 621006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations
February 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) Explain the concept of combinatorial chemistry
   b) Explain in detail about pharmacophore modelling and docking
2. a) What are antibacterial sulphonamides. Classify them with structural examples
   b) describe the Structural Activity Relationship (SAR) of quinoline class of antimalarial drugs

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

3. Describe the Structural Activity Relationship (SAR) of cephalosporin class of antibiotics
4. Explain the chemistry and mechanism of action of tetracyclines
5. Outline the chemical synthesis and mechanism of action of chloramphenicol
6. What are prodrugs. Explain the applications of prodrugs
7. Classify antitubercular drugs with structural examples
8. Explain the Structural Activity Relationship (SAR) of quinolone class of anti-infective agents
9. Outline the synthesis and mechanism of action of
   a) Metronidazole b) Diethylcarbamazine citrate

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

10. Draw the structures of penicillin degradation products
11. Give a note on aminoglycosides
12. Outline the structures and uses of macrolide antibiotics
13. Explain the mechanism of action of acyclovir
14. Outline the chemical synthesis of ciprofloxacin
15. Outline the chemical synthesis of mebendazole
16. Outline the synthesis and mechanism of action of dapsone
17. What are anthelmintics
18. Outline the synthesis and mechanism of action of miconazole
19. Give the structure and uses of
    a) Trimethoprim b) Pyrimethamine

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QP Code: 622006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations February 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-emetic drugs with examples. Describe the mechanism of action, adverse effects and therapeutic uses of metoclopramide.
2. List out the drugs used in the treatment of malaria. Explain the mechanism of action, adverse effects and therapeutic uses of chloroquine.

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

3. Describe respiratory stimulants and digestants with examples.
4. Explain about antibiotic resistance with examples.
5. Explain monoclonal antibodies.
6. Describe briefly the mechanism of action and adverse effects of vinca alkaloids.
7. Explain biosimilars with examples.
8. Explain the treatment of diarrhoea with suitable examples.
9. Describe briefly on demelanising agents with suitable examples.

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

10. Write the mechanism of action of dapsone.
11. List the therapeutic uses of cephalosporins.
12. Write the mechanism of action of chloramphenicol.
13. Write briefly about immunostimulants.
14. Classify fluoroquinolones with examples.
15. Co-trimoxazole.
16. Classify anti-cancer drugs with examples.
17. Write the mechanism of action and adverse effects of aminoglycosides.
18. Define nasal decongestants and classify them.
19. What are gene transfer techniques. Write its significance.

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QP Code: 623006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations February 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. Give a detailed account of fixed oils used in herbal cosmetics.
2. Elaborate on patenting aspects of traditional knowledge and natural products.

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

3. Brief note on organic farming.
4. Give the role of nutraceuticals in diabetes.
5. Discuss the role of any five herbs used as health foods.
6. Explain the role of natural colorants in herbal cosmetics.
7. Briefly discuss the WHO guidelines for the assessment of herbal drugs.
8. Discuss briefly Infrastructural requirements and working space of herbal medicine industry.
9. Explain briefly herbal syrups with an example.

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

10. Define herb and herbal medicine
11. Biopesticides with examples
12. Differentiate Asava and Arishta
13. Principle in Siddha
14. Scope of herbal drug industry
15. Any two herb- drug interactions of ephedra
16. Binders used in herbal cosmetics
17. Define patent with examples
18. Expand DTAB and DCC
19. Enlist two names each from medicinal plant based institutions and industries

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QP Code: 624006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations February 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. Describe the various physiological barriers affecting distribution of drug.
2. Discuss the one compartment open model for IV bolus administration.

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

3. Write in detail about physiological factors effecting drug absorption.
4. Advantages and applications of the compartment modelling approach.
5. Define clearance. Write a note on renal clearance
6. Define dissolution. Explain various methods to enhance the dissolution of poorly soluble drugs.
7. Define Physiological models, its advantages and disadvantages.
8. Briefly compare single dose with multiple dose bioavailability studies.
9. Write the significance of non linear pharmacokinetics in drug absorption and drug metabolism.

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

10. Define absorption and distribution of drugs.
11. Define phase I and phase II reactions.
12. Write about BCS classification of drugs with examples.
13. Objectives of bioequivalence studies.
14. Define intravenous infusion.
15. Draw the plasma concentration Vs time profile for a drug administered by extravascular route.
16. Define biological half life (t½)
17. The two major parameters that can be adjusted in developing a dosage regimen are-
18. State Michaelis-Menten equation
19. Enlist any two drugs that follows non linear pharmacokinetics.

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QP Code: 625006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations February 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. Explain the production of interferon by rDNA technology. Discuss the types of mutations
2. Define Hybridoma technology. Explain the production and applications of monoclonal antibodies

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

3. Explain the applications of biosensors
4. Mention the industrial applications of proteases
5. What are vaccines. Classify vaccines with suitable examples of each type
6. Classify and explain ELISA methods
7. Write a note on Transduction
8. Discuss the design features, merits and demerits of continuous fermenters
9. Enlist the properties of an ideal plasma substitute and write a note on dextran

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

10. Briefly explain type I hypersensitivity reactions
11. Steps involved in PCR (Polymerase Chain Reaction)
12. Any two applications of biotechnology in pharmaceutical sciences
13. Name the organism for the production of small pox vaccine and BCG vaccine
14. Protein engineering
15. Penicillin production
16. Adaptive immune response
17. Examples of anticoagulants used for collection of whole human blood
18. Microbial transformation of steriods
19. Citric acid production

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QP Code: 626006 **Reg. No……**

Sixth Semester B. Pharm Degree Regular/Supplementary Examinations February 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. Discuss various types of validation
2. Explain the principles of total quality management

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

3. Describe the organization and functioning of GLP facility
4. Write a note on ISO 9000
5. Write procedure for NABL accreditation
6. Write protocol for conduct of a nonclinical laboratory study
7. Write a note on material management
8. How a pH meter will be calibrated
9. Discuss the process of equipment selection and purchase

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

10. State the purpose of ICH guidelines
11. Batch formula record
12. Define quality assurance
13. Enlist the scope for validation
14. Distribution records
15. List the parameters in analytical method validation
16. Define quality by design
17. List the responsibilities of QC personnel
18. What is QSEM
19. Write a note on SOP

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