THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0321] **MARCH 2021** **Sub. Code: 2059**

(SEPTEMBER 2020 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER – VI

PAPER I – MEDICINAL CHEMISTRY III

Q.P. Code : 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Define Tuberculosis and Anti- tubercular agents. Write about synthesis, mechanism of action of Isoniazid and para amino salicylic acid.
2. Write about Solid phase synthesis and applications of combinatorial chemistry.
3. Write the nomenclature, classification and Structure activity relationship of Tetracycline.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Classification of anti – viral agents.
2. Write a short note on Beta lactamase inhibitors.
3. Discuss about various approaches used in drug design.
4. Write about synthesis of Trimethoprim and Dapsone.
5. Write a note on Macrolide antibiotics.
6. Basic concepts of prodrug design.
7. Write about synthesis of Miconazole and Tolnaftate.
8. Write the structures for the following: a). Metronidazole b). Chloroquine c). Cotrimoxazole d). Chlorobutanol e). Hexamine
9. Write a short note on Taft's steric parameter.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Define partition coefficient.
2. Molecular docking.
3. Write the structure and use of Methanamine.
4. Write the structure of Amantadine Hcl.
5. Define Anthelmintics.
6. Pharmacophore modeling.
7. Antifungal agents.
8. Combinatorial chemistry.
9. Structure and uses of Quinine sulphate.
10. Mechanism of action of Erythromycin.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0921] **SEPTEMBER 2021** **Sub. Code: 2059**

(SEPTEMBER 2020 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION
PCI Regulation 2017 - SEMESTER - VI
PAPER I – MEDICINAL CHEMISTRY III
Q.P. Code : 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. **(2 x 10 = 20)**

1. Discuss briefly about chemistry, classification and SAR of Sulfonamides.
2. Write about the physico-chemical parameters used in Quantitative Structure Activity Relationship (QSAR) studies.
3. Write about the nomenclature, classification and degradation of penicillin.

II. Write notes on: Answer any SEVEN questions. **(7 x 5 = 35)**

1. Write a note on pharmacophore modeling.
2. Discuss about Structure activity relationship of Quinolones.
3. Write about synthesis and uses of Chloramphenicol.
4. Define and classify drugs used for Urinary tract infection (UTI).
5. Write the structures for the following :
   a). Ketoconazole b). Acyclovir c). Pyrazinamide d). Thiabendazole e). Sulfamethoxazole.
6. Write a note on Aminoglycosides.
7. Write the synthesis, mechanism of action and uses of Sulfacetamide.
8. Write a note on Anti – malarial drugs.
9. Write the application of prodrug.

III. Short answers on: Answer ALL questions. **(10 x 2 = 20)**

1. Write the synthesis of nitrofurantoin.
2. What is molecular docking?
3. Write a note on Monobactams.
4. What are beta lactamase inhibitors?
5. Write the structure and uses of Cycloserine.
6. Write the uses of Nalidixic acid and Clotrimazole.
7. Write the synthesis of Diethyl carbamazepine citrate.
8. Define partition coefficient.
9. Write the structure and uses of para amino salicylic acid.
10. Define anthelmintics with examples.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0122] JANUARY 2022 Sub. Code: 2059
(MARCH 2021 EXAM SESSION)

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER VI
PAPER I – MEDICINAL CHEMISTRY III
Q.P. Code : 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Define Anti – malarial drugs, write about its classification and synthesis of Chloroquine and Pamaquine.
2. Define combinatorial chemistry and write about solution phase synthesis.
3. a). Define Antibiotics. Write about the classification of anti – biotics.
   b). Write about the synthesis and uses of Sulfacetamide and Sulfamethoxazole.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Classify Antiprotozoal agents.
2. Write about synthesis and uses of Ciprofloxacin.
3. Structure activity relationship of Quinolines.
4. Write about applications of prodrug design.
5. Write the structure, mechanism of action and uses of Cephalosporin.
6. Write short notes on biguanides.
7. Molecular docking techniques.
8. Write about the synthesis and uses of Nitrofurantoin.
9. Write about Hansch analysis.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Mechanism of Penicillin.
2. Define Pharmacophore.
3. Give the importance of QSAR studies.
4. What is Cotrimoxazole.
5. Define Molecular modeling.
6. Write the mechanism of action of Albendazole.
7. Write the structure and use of Dapsone.
8. Anti – Protozoal agents.
9. Write a note on Sulfones.
10. Structure of Metronidazole.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 0522] MAY 2022 Sub. Code: 2059

(SEPTEMBER 2021 EXAM SESSION)

B. PHARMACY DEGREE EXAMINATION

PCI Regulation SEMESTER - VI

PAPER I – MEDICINAL CHEMISTRY III

Q.P. Code : 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Discuss the chemistry, mechanism of action, SAR and synthesis of Chloramphenicol.
2. Classify sulphonamides. Briefly discuss the mechanism of action and SAR of sulphonamides. Enumerate the synthesis of sulfacetamide.
3. Write a brief account on lipophilic parameters and electronic descriptors involved in QSAR.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Classify quinolone urinary tract anti-infectives and write the structure and MOA of any two flouro quinolones.
2. Describe briefly on various approaches of prodrug design.
3. Give a note on Azole antifungals.
4. Describe the structure and mechanism of action of Metronidazole and Tinidazole.
5. Write a short note on β-lactamase inhibitors.
6. Write the structure and uses of Mebendazole and Diethylcarbamate citrate
7. Write the mechanism of action and SAR of aminoglycosides.
8. Synthesis of pamaquine.
9. Write the classification and SAR of penicillin antibiotics.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. MOA of tetracyclines.
2. Structure and uses of Rifampicin.
3. Monobactam antibiotics.
4. Structure of any two cephalosporins.
5. Classify antiprotozoal agents.
6. Nalidixic acid.
7. Write benzimidazole anthelmintics.
8. Any two β-lactamase resistant penicillins.
9. HIV Protease inhibitors.
10. Define Combinatorial Chemistry along with any two applications?

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[BPHARM 1022] OCTOBER 2022 Sub. Code: 2059
(MARCH 2022 EXAM SESSION)

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER VI
PAPER I – MEDICINAL CHEMISTRY III
Q.P. Code : 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Explain combinatorial chemistry in detail.
2. Briefly discuss the mechanism of action and SAR of azole antifungals.
3. Define and classify urinary-tract Anti-infective agents with examples. Explain the chemistry, SAR, mechanism of action of Quinolone anti-bacterial agents.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain the mechanism of action of Metronidazole.
2. Describe the mechanism of action of (a) Polyene antifungals (b) Allylamine antifungals.
3. Write the mechanism of action and structure of any one class of antitubercular agents.
4. Discuss the mechanism of action, SAR and synthesis of chloramphenicol.
5. Describe various electronic parameters involved in QSAR study.
6. Write notes on synergism and mechanism of action of sulphonamide.
7. Brief out the chemistry of cephalosporins.
8. Outline the synthesis of Chloroquine.
9. Write the structure of a) trimethoprim b) pyrimethamine.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Write the structure and use of mebendazole.
2. Give an account on bigaunaide antimalarials.
3. Write the structure of sulfonamides used for burn therapy.
4. Give an account on saquinavir.
5. Write a note on the applications of combinatorial library synthesis.
6. Write a note on β- Lactamase inhibitors.
7. Define amoebiasis and give an account on the causative agents.
8. Write the synthesis of amantadine.
9. Brief out on the types of prodrugs.
10. Classify macrolides with examples.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[B.PHARM 0323] MARCH 2023 Sub. Code: 2059
(SEPTEMBER 2022 EXAM SESSION)

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 – SEMESTER VI
PAPER I – MEDICINAL CHEMISTRY III

Q.P. Code: 562059

Time: Three hours **Maximum: 75 Marks**

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Discuss briefly SAR, chemistry, degradation and mechanism action of Tetracyclines.
2. Define and classify Anthelmintics. Give synthesis of Mebendazole.
3. Explain the chemistry, mechanism of action and enumerate the synthesis of any one antiviral drug.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Write the synthesis and mechanism of action of any one Antiprotozoal agent.
2. Discuss briefly the SAR of azole antifungals.
3. Define pharmacophore and discuss briefly on various modeling techniques.
4. Write a note on solid phase synthesis.
5. Explain the chemistry and structure of a) PAS b) Ethambutol.
6. Give an account on crystalluria and depict the strategies utilized to prevent it.
7. Write a note on semisynthetic pencillins and also brief out the advantages of semisynthetic pencillins over natural pencillins.
8. Enumerate the synthesis of metronidazole.
9. Explain the life cycle of malarial parasite.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Write the structure and use of nalidixic acid.
2. Give an account on benzimidazole anthelmintics.
3. Write a note on third generation quinolones.
4. Write the structure and use of DEC.
5. Brief on the mechanism of action of naftifine.
6. Give an account on the applications of docking studies.
7. Write a short note on Folate reductase inhibitors.
8. Define malaria and write a note on the causative agents.
9. Write the synthesis of hexamine.
10. Give an account on prodrug design.

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