

(LQ 2051)

MARCH 2020

Sub. Code: 2051

B.PHARM. DEGREE EXAMINATION
PCI Regulation – SEMESTER V
PAPER I – MEDICINAL CHEMISTRY – II

Q.P. Code: 562051

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a) What are antihistamines? What do you mean by H1 & H2-receptor antagonists?
b) Discuss its mechanism of action and classify them with examples.
c) Give the structures of any two antihistamines with pyrimidine nucleus. Add a note on synthesis of Promethazine HCl.
2. a) Classify anti-neoplastic agents.
b) Discuss the mechanism of action of its alkylating agents & anti-metabolites.
c) Give the synthesis and uses of Disopyramide and MTX.
3. a) Detail on Insulin and its preparations.
b) Write the classification of Anti-anginal. Explain the MOA of β -blocker and CCB classes of anti-anginal.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Write the syntheses of High ceiling and Carbonic anhydrase inhibitor type diuretics.
2. Give an account on SAR of Local anaesthetics.
3. Write the structures and uses of :
i) Diazoxide ii) Nitroglycerin iii) Metformin and iv) Lidocaine
4. Justify for the administration of:
i) Lidocaine with Adrenaline and ii) Anticoagulants with Sulfa drugs
5. Discuss HMG-CoA reductase inhibitors as Anti-hyperlipidemic agents. Give any one structure.
6. Write the syntheses and uses of Isosorbide dinitrate and Triprolidine HCl.
7. Explain the mechanism of action of Diuretics.
8. Discuss the nomenclature and stereochemistry of steroids.
9. Classification of anti-arrhythmic drugs.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. What are Potassium sparing Diuretics? Give examples.
2. Define Cardiotonics, give examples.
3. Give the structures and uses of Hydralazine HCl and Fluorouracil.
4. Write the general pharmacophore for Anti-histamines with one drug's structure.
5. Mechanism of action of anticoagulants.
6. Give the synthesis and use of Benzocaine.
7. Enumerate the lists of CHF. Give the structure of any one.
8. Define erectile dysfunction agents with examples.
9. Classify Local anaesthetics.
10. Give the structures and uses of Clofibrate and Nifedipine.

[BPHARM 0921]

SEPTEMBER 2021
(SEPTEMBER 2020 EXAM SESSION)

Sub. Code: 2051

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER V
PAPER I – MEDICINAL CHEMISTRY – II

Q.P. Code: 562051

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a) Classify Anti-neoplastic agents with suitable examples. Explain the mechanism of action and therapeutic uses of antimetabolites.
b) Write the synthesis and uses of Mechlorethamine and Methotrexate.
2. a) Explain the chemistry of steroids. Write briefly on corticosteroids.
b) Write a note on Insulin and its preparations.
3. Classify antihistaminic drugs with suitable examples. Explain the chemistry, SAR and mechanism of action of H₁-receptor antagonists. Write the synthesis of Diphenhydramine hydrochloride.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Classify antianginal drugs. Write the synthesis and uses of Isosorbide dinitrate.
2. Write the structure and uses of a) Thiotepa b) Nifedipine c) Hydrochlorothiazide d) Digoxin e) Lidocaine hydrochloride.
3. Explain the SAR of local anaesthetics.
4. Write a note on H₂-blockers. Give the structure of Ranitidine and Famotidine.
5. Explain the mechanism of action of biguanides as antidiabetic drugs. Give the structure and uses of Metformin.
6. Write a note on thyroid hormones. Give the structure of L-Thyroxine and L-Thyronine.
7. Write the structure, mechanism of action and medicinal uses of Sildenafil citrate.
8. Explain the physiological function of androgens. Give the structure and uses of Testosterone and Nandralone.
9. Write the synthesis and mechanism of action of Benzocaine.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Write a note on glucosidase inhibitors as antidiabetic agents.
2. What are oral contraceptives? Give the structure and uses of Mifepristone.
3. Give the structure and medicinal uses of Betamethasone.
4. Write the clinical importance of potassium sparing diuretics. Give example.
5. Write the name and mechanism of action of plant products as anticancer agents.
6. Write the structure and uses of Reserpine.
7. Give the structure and uses of Bosentan and Amlodipine.
8. What are the clinical uses of Cholestyramine. Explain its mechanism of action.
9. Write a note on calcium channel blockers.
10. Write the structure and uses of Butamben and Procaine.

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

[BPHARM 0122]

JANUARY 2022
(MARCH 2021 EXAM SESSION)

Sub. Code: 2051

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

PCI Regulation 2017 – SEMESTER V
PAPER I – MEDICINAL CHEMISTRY – II

Q.P. Code: 562051

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a) Classify Anti-hypertensive drugs with suitable examples. Explain the mechanism of action and therapeutic uses of ACE inhibitors.
b) Write the synthesis and uses of Methyl Dopa.
2. Write the classification of diuretics. Explain the chemistry of thiazide diuretics. Write synthesis of Chlorthiazide.
3. Explain the mechanism of action of organic nitrates and nitrites as antianginal drugs. Give the synthesis and uses of Isosorbide dinitrate and Nitroglycerin.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Write a note on anticancer antibiotics. Explain chemistry and MOA of any one drug.
2. Classify antiarrhythmic drugs. Write the structure and MOA of Lidocaine hydrochloride.
3. Write a note on physiological role of histamine, types of histamine receptors in human body.
4. Explain the clinical uses of H₁-receptor antagonists. Give the structure of Chlorpheniramine and Cetrizine.
5. Explain the synthesis and uses of Promethazine hydrochloride.
6. Write a note on the drugs used in congestive heart failure.
7. Write the structure, mechanism of action and medicinal uses of Tadalafil.
8. Write the synthesis of Procaine. Mention its therapeutic applications.
9. Write a note on Insulin and its preparations.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Classification of steroids.
2. What are oral contraceptives? Give the structure and uses of Levonorgestrel.
3. Give the structure and medicinal uses of Prednisolone.
4. Write the clinical importance of thyroid hormones.
5. Write the structure and uses of Cisplatin.
6. Write the structure and uses of Verapamil.
7. Give the structure and uses of Bosentan and Digitoxin.
8. What are the clinical uses of Clofibrate. Explain its mechanism of action.
9. Give two examples of proton pump inhibitors.
10. Write the structure and uses of Thioguanine and Busulfan.

[BPHARM 0522]

MAY 2022
(SEPTEMBER 2021 EXAM SESSION)

Sub. Code: 2051

B.PHARM. DEGREE EXAMINATION
PCI Regulation 2017 – SEMESTER V
PAPER I – MEDICINAL CHEMISTRY – II

Q.P. Code: 562051

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a) Define and Classify Anti-neoplastics.
b) Explain the mechanism of action of any four major classes of anti-cancer drugs.
c) Give the syntheses and uses of Tolbutamide and Mechlorethamine.
2. a) Classify Local-anaesthetics.
b) Enumerate the structures (any three), mechanism of action and SAR of Local anesthetics.
c) Give the synthesis of Procaine.
3. a) Give an account on Thyroid and anti-thyroid drugs.
b) Classify Anti-hypertensive agents.
c) Discuss on MOA of Anti-hypertensive & synthesis of Methyldopate HCl.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Give the syntheses and uses of Dibucaine and Triprolidine HCl.
2. Give any two structures of Thiazide class of Diuretics and discuss its mechanism of action.
3. Account on ACE inhibitor, with example structures of drugs.
4. Write the syntheses and uses of Dibucaine and Disopyramide Phospahte.
5. Classification of Diuretics.
6. Give the structures & uses of any two 1,4-dihydropyridine and Piperazine based drugs.
7. Discuss on Biosynthesis & Preparations of Insulin.
8. Illustrate the classification of Anti-histamines and Anti-coagulants.
9. Mechanism of action of Anti-arrhythmic drugs.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Give the structure and uses of Diethyl stilbesterol.
2. What do you mean by Repolarisation elongators? Give examples
3. Write the structure and use of Lovastatin
4. Define and give example for Vasodilators.
5. Mention the examples for Cardiac smooth muscle relaxants. Give any one structure.
6. Enumerate the lists of AT1-antagonists, Give the structure of any one drug.
7. Give the synthesis and use of Mercaptopurine.
8. Exemplify ganglionic blockers with one structure.
9. Write the general pharmacophore for Beta blockers, add examples.
10. Structure and use of Isosorbide dinitrite.

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

[BPHARM 1022]

OCTOBER 2022
(MARCH 2022 EXAM SESSION)

Sub. Code: 2051

B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)

**PCI Regulation 2017 – SEMESTER V
PAPER I – MEDICINAL CHEMISTRY II**

Q.P. Code: 562051

**Time: Three hours
Marks**

Maximum: 75

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a) Discuss the Structural Activity Relationship of H-1 receptor antagonist drugs.
b) Discuss the structure, synthesis and uses of Cimetidine.
2. a) Give the classification of Local Anesthetics with example. Explain the SAR of Local Anesthetics.
b) Outline the synthesis and uses of Benzocaine.
3. a) Classify Anticancer drugs with atleast one structure in each class.
b) Illustrate the synthesis, mechanism and uses of Methotrexate.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Outline the mechanism and synthesis of any one loop diuretic.
2. Classify oral anti diabetic agents with its structure.
3. Describe the Mechanism and uses of Organic nitrates as Anti-anginal agents.
4. Illustrate the synthesis, mechanism and uses of Disopyramide phosphate.
5. Demonstrate mechanism and uses of Sulfonyl ureas.
6. Describe the medicinal chemistry of aspect of Corticosteroids.
7. Demonstrate the structure, Mechanism and uses of Methimazole.
8. Classify anti-hyperlipidemic agents with its structures.
9. Discuss biosynthesis of sex hormones and its roles.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Note on Proton pump inhibitors.
2. Draw the structure and mention the uses of Cyclophosphamide.
3. Recall the structure and uses of Verapamil.
4. Mechanism of action of Biguanides.
5. Sketch the structure and mention the uses of Hydralazine.
6. Mention Mechanism of Menadione.
7. Define Congestive Heart Failure.
8. Recall the structure and uses of Dexamethasone.
9. Sketch the structure and mention the uses of Propylthiouracil.
10. Draw the structure and mention the uses of Cocaine.

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

[B.PHARM 0323]

MARCH 2023
(SEPTEMBER 2022 EXAM SESSION)

Sub. Code: 2051

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

Q.P. Code: 562051

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions.

(2 x 10 = 20)

1. a. Classify H₁ and H₂ receptor antagonists with at least one structure of each class.
b. Discuss the structure, synthesis and uses of Promethazine hydrochloride.
2. a. Categorize Diuretics drugs with at least one structure of each class.
b. Discuss the synthesis and uses of Methyldopa.
3. a. Discuss the synthesis and uses of Tolbutamide.
b. Categorize Anti-arrhythmic drugs with at least one structure of each class.

II. Write notes on: Answer any SEVEN questions.

(7 x 5 = 35)

1. Illustrate the synthesis, mechanism of Meclorothamine.
2. Write note on mechanism of ACE Inhibitors.
3. Describe the mechanism and uses of calcium channel blockers as anti-anginal agent.
4. Illustrate the synthesis, mechanism and uses of warfarin.
5. Demonstrate the biological role of sex hormones.
6. Describe the local anesthetics activity of para Amino benzoic acid derivatives.
7. Write note on Insulin and its preparations
8. Give an account on SAR of Local anaesthetics.
9. What are corticosteroids and give its significance.

III. Short answers on: Answer ALL questions.

(10 x 2 = 20)

1. Note on proton pump inhibitor.
2. Mechanism of alkylating agents.
3. Give the structure and uses of Isosorbide dinitrate.
4. Mechanism of action of Furosemide.
5. Sketch the structure and mention the uses of Clonidine.
6. Mention Mechanism of Quinidine sulphate.
7. Define diabetics and its types.
8. Recall the structure and uses of Testosterone.
9. Sketch the structure and mention the uses of Levonorgestrol.
10. Draw the structure and mention the uses of Clofibrate.
