

(LB 4271)

AUGUST 2012

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAM**  
**Paper V – MEDICINAL CHEMISTRY - II**  
**Q.P. Code: 564271**

**Time: Three Hours**

**Maximum: 100 marks**

**(180 Min) Answer ALL questions in the same order.**

**I. Elaborate on:**

**Pages Time Marks**  
**(Max.)(Max.)(Max.)**

- |   |    |    |    |
|---|----|----|----|
| 1. Classify anti-neoplastic agents. Discuss mechanism of action of alkalyting agents. Write any three drugs with synthesis. | 19 | 33 | 20 |
| 2. Discuss about the adverse effect of glucocorticoids .Write the synthesis, derivatives of Oestrogens and any four drugs.  | 19 | 33 | 20 |

**II. Write notes on:**

- |  |   |   |   |
|--|---|---|---|
| 1. Write about folate reductase inhibitors.                              | 3 | 8 | 5 |
| 2. Define Anti-Coagulants &Anti Thrombolytics .Classify with Structures. | 3 | 8 | 5 |
| 3. Write about Solid phase synthesis.                                    | 3 | 8 | 5 |
| 4. Write the structure and uses of Sulpha methoxazole and Chloroquine.   | 3 | 8 | 5 |
| 5. Write about Anti –Thyroid drugs.                                      | 3 | 8 | 5 |
| 6. Classify Anti-Scabies agents. Write synthesis of Gammaxene.           | 3 | 8 | 5 |
| 7. Write the mechanism of action of Penicillins.                         | 3 | 8 | 5 |
| 8. Write the synthesis and uses of INH and Metronidazole.                | 3 | 8 | 5 |

**III. Short Answers:**

- |   |   |   |   |
|---|---|---|---|
| 1. Give two examples of hypoglycemic agents.          | 1 | 5 | 2 |
| 2. Define anthelmintics.                              | 1 | 5 | 2 |
| 3. Give two adverse effects of Chloramphenicol.       | 1 | 5 | 2 |
| 4. Write the structure and uses of Congo-red.         | 1 | 5 | 2 |
| 5. Define Cardiotonics.                               | 1 | 5 | 2 |
| 6. Give two examples of vasodilators.                 | 1 | 5 | 2 |
| 7. Write the use of Silver sulphadiazine and Dapsone. | 1 | 5 | 2 |
| 8. Write the types of Oral contraceptives.            | 1 | 5 | 2 |
| 9. Classify anti – hypertensive drugs.                | 1 | 5 | 2 |
| 10. Write structure and uses of Oxytocin.             | 1 | 5 | 2 |

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(LC 4271)

FEBRUARY 2013

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAM**  
**Paper V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three Hours**  
**(180 Min)**

**Maximum: 100 marks**

**I. Elaborate on:**

**(2X20=40)**

- 1) a) write in detail classification of anti anginal drugs (5)  
b) Write synthesis and mechanism of Isosorbide dinitrate (5+5)  
c) Outline the synthesis and use of Disopyramide (5)
- 2) a) Define antibiotics and classify them with suitable examples (5)  
b) Discuss chemistry, structure, mechanism of action, degradation and use of Tetracyclines (10)  
c) Enumerate the Structure Activity Relationship of calcium channel Blockers (5)

**II Short Notes:**

**(8 x 5 = 40)**

- 1) Write synthesis of the following drugs (i) Amodiaquine (ii) Acyclovir
- 2) Enumerate solid phase synthesis
- 3) Write notes on antiscabious and antipedicular agents
- 4) Discuss anti tubercular drugs classification and give synthesis of Isoniazide
- 5) Write the application of quantum mechanics on Drug design
- 6) Write mechanism of action and SAR of ACE inhibitors
- 7) Define alkylating agent and discuss its mechanism of action with suitable example
- 8) Discuss Sulphonyl ureas as hypoglycemic agent

**III Short Answer:**

**(10 x 2 = 20)**

- 1) Write synthesis of Tolnaftate
- 2) Mechanism of ciprofloxacin
- 3) Draw structure of Betamethazone and Stilbosterol
- 4) Oral contraceptive agents
- 5) Write history and development of Penicillins
- 6) Write the name of any two folate reductase inhibitors
- 7) Write mechanism of  $\beta$  lactam antibiotics
- 8) Write use of Oxytocin
- 9) Write about analog drug design
- 10) Write structure and uses of Griseofulvin and Mebendazole

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(LD 4271)

AUGUST 2013

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAM**  
**Paper V – MEDICINAL CHEMISTRY - II**  
*Q.P. Code : 564271*

**Time: Three Hours**

**Maximum: 100 marks**

**I. Elaborate on:** **(2X20=40)**

1. a) Define & classify antiviral drugs with suitable examples  
b) Enumerate the structure, mechanism of action, structure activity relationship and use of amino glycoside antibiotics.  
c) Outline the synthesis & mechanism of action of acyclovir.
2. a) Discuss in detail the classification, mechanism of action, toxicity and uses of Sulpha drugs  
b) Outline the synthesis of i) Chloramphenicol ii) Guanethidine

**II. Write notes on:** **(8X5=40)**

1. Outline in detail about oxytocin & vasopressin
2. Discuss oral contraceptive agents with suitable examples
3. Write the synthesis of methotrexate
4. Draw a note on macrolide antibiotics
5. Outline the structure, mechanism of action, toxicity & use of norfloxacin
6. Enumerate an application of mechanism based approaches in drug design
7. Classify local anti-infective agents? Write the synthesis of hexachlorophene
8. Write a note on anti-pedicular agents.

**III. Short Answers on:** **(10X2=20)**

1. Write the structure & use of Naftifine Hydrochloride
2. Explain the mechanism of action & use of trimethoprim
3. Note on folate reductase inhibitors
4. Define & classify synthetic hypoglycemic agents
5. Write the structure & use of i) Idoxuridine ii) Fluorouracil
6. Explain the mechanism of action of anti-hyperlipidemic agents.
7. Androgens
8. Draw the structure & toxicity of i) pentagastrin ii) Anisindione
9. Structure of Novobiocin & Dactinomycin
10. Write the structure activity relationship of tetracyclines.

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(LE 4271)

FEBRUARY 2014

Sub. Code: 4271

FOURTH YEAR B.PHARM. EXAM

Paper V – MEDICINAL CHEMISTRY - II

*Q.P. Code : 564271*

**Time: Three Hours**

**Maximum: 100 marks**

**I. Elaborate on:**

**(2X20=40)**

1. Antimalarial agents. Classify with suitable examples. Write the mechanism of action, uses and synthesis of any three drugs.
2. a) CADD  
b) Combinatorial Chemistry

**II. Write notes on:**

**(8X5=40)**

1. Synthesis and uses of Procainamide and Fluorescein sodium
2. SAR of 1,4 dihydro pyridines
3. Oxytocin
4. Anti TB agents
5. Write the structure and uses of Sulphadiazine and Nalidixic acid
6. Antifungal agents
7. Antiarrhythmic agents
8. Glucocorticoids

**III. Short Answers on:**

**(10X2=20)**

1. Crystalluria and pKa
2. Antiprotozoal agents
3. Thiomersal
4. Cisplatin
5. Acyclovir
6. Clofibrate
7. Anthelmintics
8. Ciprofloxacin
9. Liquified phenol
10. Methylene blue.

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[LF 4271]

AUGUST 2014

Sub. Code: 4271

**FOURTH YEAR B.PHARM. DEGREE EXAMINATION**

**Paper V - MEDICINAL CHEMISTRY - II**

*Q. P. Code: 564271*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer All Questions**

**I. Essay Questions:**

**(2 x 20 = 40)**

1. Antineoplastic agents.
2. Discuss the chemistry of Antimalarial agents

**II. Short Notes:**

**(8 x 5 = 40)**

1. Synthetic Hypoglycemic agents
2. Write the synthesis and uses of Phenytoin and Metronidazole
3. Combinatorial Chemistry
4. Discuss the chemistry of Anticoagulants
5. SAR of Sulphonamides
6. Anthelmintics
7. Mineralocorticoids
8. Write the structure, IUPAC name and uses of Norfloxacin and Pyrazinamide

**III. Short Answers:**

**(10 x 2 = 20)**

1. Deconvolution
2. Congo red
3. Define the term arrhythmias
4. Synthesis of Niacin
5. Anticoagulants
6. Eugenol
7. Crystalluria and pKa
8. Zidovudine
9. Ofloxacin
10. CADD

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(LG 4271)

FEBRUARY 2015

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAMINATION  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 marks**

**I. Essay:**

**(2 x 20 = 40)**

1. a) What are Sulphonamides? Classify them with structural example of each class.  
b) Sketch the synthesis of Sulphamethiazole and Sulphamethoxazole.  
c) Explain the mechanism of action of Sulphonamides.
2. a) Define antibiotics. Classify them based on spectrum of activity.  
b) Discuss the degradation products of Penicillin.  
c) What are semi-synthetic Penicillins? Give their structures and advantages.  
d) Write a short note on Chloromycetin.

**II. Short notes:**

**(8 x 5 = 40)**

1. Outline the structure and synthesis of Acyclovir and give its mechanism of action.
2. Write a note on anticancer antibiotics and their mechanism of actions.
3. Classify Azole antifungal agents and explain briefly their SAR.
4. Give the structures of any two 1,4- dihydro pyridines as calcium channel blockers and explain their mechanism of action.
5. Write a short note on Glucocorticoids.
6. Discuss briefly about HMG Co- A Inhibitors.
7. Write short notes on synthetic Hypoglycemic agents.
8. Oral contraceptives

**III. Short answers:**

**(10 x 2 = 20)**

1. Eugenol
2. Draw any TWO structures of antifungal agents
3. Write uses of Rifampicin
4. Write the synthesis of Metronidazole
5. Classify Anthelmintics with examples
6. Give the structure and medicinal uses of Crotamiton
7. Define Antibiotics and Antibacterial Agents
8. Name any two  $\beta$ -lactamase resistant Penicillins
9. Write the alkaloids used in Cancer treatment.
10. Define Cardiotonics. Give examples

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[LH 4271]

AUGUST 2015

Sub. Code: 4271

**B.PHARM. DEGREE EXAMINATION**  
**FOURTH YEAR**  
**PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code: 564271*

**Time : Three Hours**

**Maximum : 100 marks**

**Answer ALL questions**

**I. Essay:**

**(2 x 20 = 40)**

1. Explain drug design based on traditional analog and QSAR studies.
2. a) Classify antiviral agents. Synthesis of Acyclovir and Amantadine.  
b) SAR of Sulphonamides.

**II. Short notes :**

**(8 x 5 = 40)**

1. Classify Antitubercular agents, synthesis of INH and Para Amino salicylic acid.
2. Synthesis of DEC and Thiabendazole.
3. Synthesis of sulphacetamide and sulphamethoxazole.
4. History and current status of penicillins.
5. MOA of alkylating agents. Write the structure and uses of Pipobroman.
6. List vasodilators with structure.
7. Synthesis of Methyldopa HCL and Hydralazine.
8. Write notes on Mineralocorticoids.

**III. Short answers:**

**(10 x 2 = 20)**

1. Define Antithrombolytics.
2. MOA of Enalapril.
3. Structure and uses of Phenformin.
4. Structure and uses of Erythrosine.
5. Structure and uses of Minoxidil.
6. Write structure any two Antiprotozoal agents.
7. Structure and uses of Norfloxacin.
8. Synthesis of Halazone.
9. Solid phase synthesis.
10. Structure and uses of Naftifine HCL.

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(LI 4271)

FEBRUARY 2016

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAMINATION  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Essay:**

**(2 x 20 = 40)**

1. a) Write notes on lead.  
b) QSAR studies based on electronic parameter and steric parameters.  
c) Solid phase synthesis.
2. Classify synthetic anti-bacterials. MOA of Norfloxacin and write the synthesis of Nitrofurantoin and INH.

**II. Short notes:**

**(8 x 5 = 40)**

1. History and development of Quinine Sulphate.
2. Explain the MOA of Amlodipine and synthesis of Nitroglycerin.
3. Synthesis of testosterone.
4. Write notes on Macrolide antibiotics.
5. Structures and uses of Pentagastrin and Evansblue. Synthesis of Cisplatin.
6. Classify antiviral agents with structure.
7. Write notes on synergism of Sulphonamide and its mechanism of action.
8. Classify local anti-infective agents. Write structure and uses of Butoconazole and Griseofulvin.

**III. Short answers:**

**(10 x 2 = 20)**

1. Synthesis of Piperazine.
2. Structure and uses of hydroxyl chloroquine.
3. Classify anti coagulants.
4. Classify anti-arrhythmic drugs.
5. Write the structure and uses of Ritonavir.
6. MOA of Chloramphenicol.
7. MOA of oral contraceptives.
8. Classify antipedicular agents.
9. How to reduce crystalluria.
10. Structure and uses of Oxamniquine.

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(LJ 4271)

AUGUST 2016

Sub. Code: 4271

**FOURTH YEAR B.PHARM. EXAMINATION  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Essay:**

**(2 x 20 = 40)**

1. a) Write the classification of antifungal agents.  
b) MOA and SAR of Azole derivatives.  
c) Synthesis of Miconazole and Tolnaftate.
2. a) Write notes on CADD.  
b) Explain liquid phase synthesis.

**II. Short notes:**

**(8 x 5 = 40)**

1. Write the classification of Anti-anginal agents and synthesis of Nitroglycerin and Isosorbide.
2. Write the synthesis of cycloserine and its use.
3. Write the mechanism of anti-metabolite and structure of Floxuridine.
4. Write the synthesis of cyclophosphamide and methotrexate.
5. Explain insulin and its preparation.
6. Interconversion of Oestrogens.
7. Write notes on aminoglycoside antibiotics.
8. Write the structure and uses of Iodipamide meglumine and methacoline chloride. Synthesis of Fluorescein Na.

**III. Short answers:**

**(10 x 2 = 20)**

1. Structure and uses of mebendazole.
2. Structure and uses of dapsone.
3. Synthesis of benzyl benzoate.
4. Structure and uses of Amodiaquine HCL.
5. MOA of cholestyramine.
6. Structure of Thyroid hormone.
7. Structure and uses of didanosine.
8. MOA of penicillin.
9. Synthesis of Lindane.
10. MOA of piperazine derivatives.

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(LK 4271)

FEBRUARY 2017

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Classify antihypertensives and write the synthesis of Hydralazine and Disopyramide.  
b) MOA of captopril.
2. Define QSAR and discuss various parameters involved in the QSAR studies.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Classify oral hypoglycemic agents and write the structure and mechanism of Metformin.
2. Explain the mechanism of alkylating agents.
3. Write note on anti-hyperlipidemic agents with structure.
4. Write the structure and uses of any five diagnostic agents.
5. Classify the antimalarial agents and write the synthesis of Chloroquine.
6. Write the classification of sulphonamides & write the synthesis of Sulphacetamide Sodium.
7. Explain the chemistry and nomenclature of steroids.
8. Write a note on antifungal agents.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the structures of Halazone and Chlorhexidine.
2. Write the synthesis of cisplatin.
3. Classify anticoagulants.
4. Classify antiprotozoal agents.
5. Synthesis of silver sulphadiazine.
6. Synthesis of Nalidixic acid.
7. Write any two structures of first line anti tubercular agents.
8. Insulin preparations.
9. Write the structure and uses of Clofibrate and Dicoumerol.
10. Anti-thyroid agents.

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(LL 4271)

AUGUST 2017

Sub. Code: 4271

**B.PHARM. DEGREE EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Explain the methods and application of combinational chemistry in detail.  
b) Write notes on computer aided drug designing.
2. a) Classify Anti-viral agents and its mechanism of action and write the synthesis and uses of a) Amantadine HCl b) Acyclovir  
b) Write a note on Anti-arrhythmia drugs.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write the inter conversion of oestrogens.
2. Write note on Macrolide antibiotics.
3. Write the synthesis of Thiabendazole and piperazine salts.
4. Write the synthesis of Tolnaftate and Ketoconazole.
5. Write note on oral contraceptives.
6. Write note on Insulin and its preparation.
7. Write the classification of sulphonamides and write the synthesis of dapsone.
8. Classify anti-neoplastic drugs and write the synthesis of cyclophosphamide.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis of Isosorbide dinitrate.
2. Define encoding.
3. Define Crystalluria.
4. What are the types of virus?
5. Write the synthesis of Hexa Chlorophene.
6. Define prodrug with example.
7. Write the synthesis of Isoniacid hydrazide.
8. Define diagnostic agents with examples.
9. Write the mechanism of cholestyramine.
10. Write the structure and uses of dicoumarol.

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

(LM 4271)

FEBRUARY 2018

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Classify anti-cancer drugs and write the synthesis of Cisplatin, Mercaptopurine and cyclophosphamide.  
b) MOA of alkylating agents.
2. a) Define Combinatorial chemistry and explain in detail about solid phase synthesis.  
b) Chemistry of natural hormones and synthetic derivatives including contraceptives.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Define and classify anti-tubercular agents and write the synthesis and mechanism of action of Isoniazid.
2. Explain the mechanism of action of anti-bacterial Sulphonamides and crystallurea.
3. Write note on anti-protozoal agents.
4. Define diagnostic agents and write a note on it.
5. Write a note on anti-fungal antibiotics.
6. Write the classification and structural activity relationship of penicillin.
7. Explain the chemistry and mechanism of anticoagulants and anti-thrombolytics.
8. Write a note on anti-hyperlipidemic agents and synthesis of Guanethidine.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the structures and uses of Procainamide hydrochloride.
2. Write the synthesis of metronidazole.
3. Classify vasodilators.
4. Define anti-scabies agent.
5. Synthesis of Acyclovir.
6. Oxytocin and vasopressin.
7. Write the structures of Aminoglycosides derivatives.
8. Anti-anginal agents.
9. Write the structure and uses of some anthelmintics.
10. Write about novobiocin sodium.

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

(LN 4271)

AUGUST 2018

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Elaborate the medicinal chemistry aspects of anti-malarials with emphasis on history, chemical classification with examples, mechanism of action of each class and synthesis of any two drugs.
2. a) Discuss elaborately about electronic and steric parameters in a QSAR study.  
b) Write in detail about Hansch analysis and free Wilson analysis.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Brief on anti-metabolites.
2. Outline the synthesis of : i) Chloramphenicol ii) Para Amino Salicylic acid.
3. Write briefly about synthetic hypoglycaemic agents.
4. Discuss briefly the chemistry of erythromycin and discuss the advantages of semisynthetic erythromycins.
5. Write the chemistry of estrogens.
6. Write a note on antifungal antibiotics.
7. Write in detail about solid phase synthesis.
8. Write briefly about anti-hyperlipidemic agents.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write a note on cationic local anti-infective agents.
2. Brief out the mechanism of action of sulphonamides.
3. Write the synthesis of guanethidine.
4. Write a short note on reverse transcriptase inhibitors.
5. Write the structure and uses of Congo-red.
6. Write the spectrum of activity of second generation cephalosporins.
7. Write a short note on molecular mechanics.
8. Write the structure of any two mineralocorticoids.
9. Write a note on tissue amoebicides.
10. Write the structure and uses of Phenytoin Sodium.

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

(LO 4271)

FEBRUARY 2019

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Define antineoplastic agents. Elaborate the classification, mechanism of action and structures of various alkylating agents and antimetabolites. Also write the synthesis of any three.
2. a) Write a detailed note on combinatorial chemistry.  
b) Describe various techniques utilized in computer aided drug design.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Enumerate the synthesis of chloroquine.
2. Write a detailed note on cardiotonics.
3. Write in detail about the SAR of azole anti-fungals.
4. Classify semisynthetic penicillins and write the advantages of semisynthetic penicillins over natural penicillins.
5. Brief out a note on glucocorticoids.
6. Enumerate the synthesis and mechanism of action of amantadine.
7. Write a note on insulin and its preparations.
8. Write a note on lipophilic parameters and its application in drug design.

**III. Short answers on:**

**(10 x 2 = 20)**

1. What is crystalluria and give the methods used to reduce crystalluria?
2. Write the synthesis of phenytoin.
3. Brief a note on the mechanism of action of ethionamide.
4. Write on angiotensin receptor antagonist.
5. Write the structure of ciprofloxacin and nitrofurantoin.
6. Write a short note on antithyroid drugs.
7. Write the medicinal importance of dihydropyridines.
8. Explain the structure and use of trimethoprim.
9. Define anti-peptidic agents.
10. Write a short note on benzimidazole anthelmintics.

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

(LP 4271)

AUGUST 2019

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Classify Anti hypertensives and write the synthesis of Hydralazine and Methyldopa.  
b) Write note on Anticoagulants.
2. Define QSAR and discuss various parameters involved in the QSAR studies.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Give an account on antiviral agents.
2. Write the synthesis of Metronidazole & Mercaptopurine.
3. Write note on Penicillins.
4. Write note on anti-scabious drugs.
5. Define anti-bacterial agent. Write the structure and use of any two drugs.
6. Classify anti-malarial agents and write the synthesis of Chloroquine.
7. Write note on Mineralocorticoids.
8. Write notes on anti-thyroid drugs.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Structure and use of Mebendazole.
2. Structure and use of Dapsone.
3. Solid phase synthesis.
4. Folate reductase inhibitors.
5. Define and classify synthetic hypoglycemic agents.
6. Classify anti-protozoal agents.
7. Synthesis of any one sulpha drug.
8. Name the Sulpha drug used in the treatment of burn therapy & give its structure.
9. Draw any two structures of antifungal agents.
10. Name any two  $\beta$ -lactamase resistant penicillins.

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

(LQ 4271)

FEBRUARY 2020

Sub. Code: 4271

**B.PHARM. EXAMINATION  
FOURTH YEAR  
PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Define and classify anti-malarial drug and write SAR of anti-malarial drugs.  
b) Discuss the chemistry and degradation of penicillin and write the synthesis of Chloramphenicol.
2. a) Classify synthetic anti-bacterials and write the mechanism and SAR of sulphonamides.  
b) Write the synthesis of any two sulpha drugs.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write note on anticancer antibiotics and their mechanism of action.
2. Write short note on Glucocorticoids.
3. Write note on oral Hypoglycemic agents.
4. Write short notes on combinatorial chemistry.
5. Write note on Anthelmintic drugs.
6. Classify antihypertensive drugs with example.
7. Classify local anti-infective agents. Write the structure and use of butoconazole and Griseofulvin.
8. Explain the chemistry of Oestrogen.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Structure and use of Phenformin.
2. Structure and use of minoxidil.
3. SAR of tetracyclines.
4. Mechanism of action of antihyperlipidemic drugs.
5. Write the synthesis of cisplatin and give its uses.
6. Insulin preparations.
7. Antithyroid agents.
8. Classify antiarrhythmic agents.
9. Write the structure of any two antimetabolites.
10. Define Cardiotonic and Vasodilators.

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

(LR 4271)

DECEMBER 2020

Sub. Code: 4271

(AUGUST 2020 SESSION)

**B.PHARM. EXAMINATION**

**FOURTH YEAR**

**PAPER V – MEDICINAL CHEMISTRY - II**

*Q.P. Code : 564271*

**Time: Three hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Write the classification of Anti-neoplastic agents, its mechanism of action and write the synthesis and used of (a) Methotresate (b) Mercaptopurine (c) Cyclophosphamide.  
  
b) Write note on Semi-synthetic pencillin?.
2. Write the classification of Antihypertensive agents, its mechanism of action and write the synthesis and uses of (a) Hydralazine HCl (b) Methyldopate hydrochloride (c) Guanethidine monosulphate.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write the synthesis and uses of Miconazole and Tolnaftate?
2. Write the synthesis and uses of Cycloserine and Para amino salicylic acid?
3. Write a note on solid phase synthesis?
4. Write a note on oral contraceptives?
5. Classify the antimalarial agents and write the synthesis of Chloroquine?
6. Write the synthesis and uses of Nalidixic acid and Nitrofurantoin?
7. Classify Antiviral agents and write the synthesis of Acyclovir?
8. Classify Antiprotozoal agents its mechanism and write the synthesis of Diloxanide?

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis of Cisplatin?
2. Give the structure and use of crotamiton?
3. Define Anti-thrombolytics?
4. Write the structure and uses of Thiomersal?
5. Write the structure and uses of Dapsone?
6. Define cardiotonics with examples?
7. Write the structure and uses of Amodiaquine HCl?
8. Write any two acid resistant penicillins.
9. Define the term combinatorial chemistry?
10. Write the structure and uses of Fluorescein sodium?

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

[BPHARM 0921]

SEPTEMBER 2021  
(FEBRUARY 2021 EXAM SESSION)

Sub. Code: 4271

**B. PHARMACY DEGREE EXAMINATION**  
**FOURTH (FINAL) YEAR – (NON-SEMESTER)**  
**PAPER V – MEDICINAL CHEMISTRY - II**  
*Q.P. Code : 564271*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Explain the methods and application of combinational chemistry in detail.  
b) Write notes on Computer aided drug design.
2. Classify anti-neoplastic drugs? Discuss the mechanism of action of alkylating agents. Write the synthesis of Methotrexate, Cyclophosphamide and Mercaptopurine.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write notes on Macrolide antibiotics?
2. Write the synthesis of Tolnaftate and Ketoconazole?
3. Classify Antiviral agents and write the synthesis of Amantadine HCl?
4. Write the classification of Sulphonamides and write the synthesis of Dapsone?
5. Write the synthesis of Thiabendazole and Piperazine salts?
6. Write a note on Antihyperlipidemic agents and synthesis of Guanethidine monosulphate.
7. Define and classify antitubercular agent and write the synthesis of INH.
8. Write the Synthesis of Hexachlorophene and Halazone.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis of Isosorbide dinitrate?
2. Define Encoding?
3. Define diagnostic agents with example?
4. Define anti-scabies agent with example?
5. Write the structure and uses of Procainamide HCl?
6. What are Vasodilators? Give example.
7. Write a note on Cationic local anti-infective agents?
8. Write the structure of Ciprofloxacin and its uses?
9. What is crystalluria and give the methods used to reduce crystalluria?
10. Write the synthesis of Phenytoin and its use.

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

[BPHARM 0122]

JANUARY 2022  
(AUGUST 2021 EXAM SESSION)

Sub. Code: 4271

B.PHARMACY DEGREE COURSE (NON-SEMESTER EXAMINATIONS)  
FOURTH (FINAL) YEAR (Regulation 2009-2010)  
PAPER V – MEDICINAL CHEMISTRY - II  
*Q.P. Code : 564271*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Write notes on Quantitative structure activity relationship models.
2. Write the synthesis and Medicinal uses of following.
  - a. Methyl benzethorium chloride.
  - b. Mercaptopurine.
  - c. Hydralazine HCl.
  - d. Niacin.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Discuss structure activity relationship of sulphonamides.
2. Mechanism of action of alkylating agents.
3. Write note on graph theory involved in drug design.
4. Define combinatorial synthesis and explain about solid phase synthesis.
5. Mechanism of action of ACE inhibitors.
6. Write short note on mechanism based approach in drug design
7. Define and classify antifungals with suitable examples.
8. Write note on tetracycline.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis and uses of Diethylcarbamazine (DEC).
2. Write the synthesis and uses of Isoniazid.
3. Write the synthesis and uses of Benzylbenzoate.
4. Write the synthesis and uses of Sulphacetamide sodium.
5. Define Anti-Thrombolytics.
6. Vasodilators.
7. Define partition co-efficient.
8.  $\beta$ -lactum antibiotics.
9. Write the mechanism of action of macrolides.
10. HMG CoA reductase inhibitors.

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

[BPHARM 0522]

MAY 2022  
(FEBRUARY 2022 EXAM SESSION)

Sub. Code: 4271

B. PHARMACY DEGREE EXAMINATION  
FOURTH (FINAL) YEAR  
PAPER V – MEDICINAL CHEMISTRY - II  
*Q.P. Code : 564271*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Write notes on Topliss decision tree.  
b) Degradation products of Penicillin.
2. Write the synthesis and Medicinal uses of following.
  - a. Hexachlorophene.
  - b. Ketoconazole.
  - c. Thiabendazole.
  - d. Nalidixic acid.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Mechanism of action of sulphonamides.
2. Mechanism of action of anti metabolites.
3. Discuss about Anti Hypertensive agents.
4. Define combinatorial synthesis and explain about solid phase synthesis.
5. Mechanism of action of ACE inhibitors.
6. Write short note on Quantum mechanics and Molecular mechanics
7. Define and classify antifungals with suitable examples.
8. Write note on solution phase synthesis.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis and uses of Piperazine.
2. Write the synthesis and uses of Crotamiton.
3. Write the synthesis and uses of Nitroglycerine.
4. Write the synthesis and uses of Fluorescein sodium.
5. Mechanism of action of Acyclovir.
6. Vasodilators.
7. Define partition co-efficient.
8.  $\beta$ -lactum antibiotics.
9. Write the mechanism of action of macrolides.
10. HMG CoA reductase inhibitors.

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

**[BPHARM 1022]**

**OCTOBER 2022  
(AUGUST 2022 EXAM SESSION)**

**Sub. Code: 4271**

**B.PHARMACY DEGREE COURSE (NON-SEMESTER EXAMINATIONS)  
FOURTH (FINAL) YEAR (Regulation 2009-2010)  
PAPER V – MEDICINAL CHEMISTRY - II  
*Q.P. Code : 564271***

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a. Write the structure synthesis and uses of: i) Nalidixic acid ii) Cycloserine.  
b. Write notes on solid phase synthesis.
2. a. Discuss classification of antimalarials, history and development of Quinine Sulphate.  
b. Write the synthesis of Chloroquine phosphate and Amodiaquine HCl.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Give the classification of antibacterial agents.
2. Write notes on crystal urea.
3. Give the structure and uses of Amantadine HCl, Acyclovir, Sulphamethoxazole and Metronidazole.
4. Outline the relationship between oestrone, oestradiol and oestriol.
5. Write notes on insulin.
6. Write notes on antitubercular agents.
7. Write notes on Hammett constant.
8. Discuss about chemistry of penicillin.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Give the structure and uses of dapsone.
2. Explain mechanism of alkylating agents.
3. Give the synthesis of INH.
4. Give the synthesis of isosorbide dinitrate.
5. Give the structure and uses of Cyclophosphamide.
6. Classify anticoagulants.
7. List any two antihypertensives with structure.
8. Write notes on anti thyroids.
9. Give the structure and uses of Clofibrate.
10. Write the mechanism of action of  $\beta$ -lactam antibiotics.

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

[B.PHARM 0323]

MARCH 2023  
(FEBRUARY 2023 EXAM SESSION)

Sub. Code: 4271

B.PHARMACY DEGREE COURSE (NON-SEMESTER EXAMINATIONS)  
FOURTH (FINAL) YEAR (Regulation 2009-2010)  
PAPER V – MEDICINAL CHEMISTRY – II

*Q.P. Code: 564271*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a. Write the note on traditional analog.  
b. Write the note on partition coefficient.
2. a. Discuss classification of synthetic anti bacterial and SAR of Quinolones.  
b. Write the synthesis of Nalidixic acid and nitrofurantoin.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Explain Hansch analysis.
2. Write notes on SAR of sulphonamides.
3. Classify anti anginal agents.
4. Write the synthesis and uses of Hexachlorophen.
5. Write notes on thyroid drugs.
6. Write the synthesis and uses of Mercaptopurine.
7. Write the synthesis and uses of guanethidine.
8. Discuss about molecular mechanics.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Give the structure and uses of anthelminitics.
2. Write the structure and uses of clotrimazole.
3. Give the structure and uses of silver sulphadiazine.
4. Give the structure and uses of dimercaprol.
5. List out antibiotics act as antineoplastic agent.
6. Write the structure and uses of Evansblue.
7. List any two antihyperlipidemic agents with structure.
8. Write the structure and uses of oestriol.
9. Give the structure and uses of idoxuridine.
10. Write the structure and uses of thiotepa.

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

[B.PHARM 0823]

AUGUST 2023

Sub. Code: 4271

**B.PHARMACY DEGREE COURSE (NON-SEMESTER EXAMINATIONS)  
FOURTH (FINAL) YEAR (Regulation 2009-2010)  
PAPER V – MEDICINAL CHEMISTRY – II**

*Q.P. Code: 564271*

**Time: Three hours**

**Answer ALL questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Classify Anti-viral agents, its mechanism of action and write the synthesis and uses of (i) Amantadine Hcl (ii) Acyclovir.  
b) Write a note on Anti-anginal drugs.
2. a) Classify Anti malarial agents with examples, its mechanism of action and synthesis of (i) Chloroquine phosphate (ii) Amodiaquine Hcl.  
b) Explain the methods and application of Combinatorial chemistry.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Write notes on Amino glycoside Antibiotics.
2. Write the synthesis and uses of Isonicotinyl hydrazide and para amino Salicylic acid.
3. Discuss about Insulin and its preparations.
4. Write a note on classification of local anti-infective agents and synthesis of Halazone.
5. Write the synthesis and uses of Nalidixic acid and Nitrofurantoin.
6. Write briefly about antihyperlipidemic agents.
7. Classify Antiprotozoal agents its mechanism and synthesis of Diloxanide.
8. Classify antihypertensive agents and write the synthesis of Guanethidine monosulphate.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Write the synthesis and uses of Chloramphenicol.
2. Write the structure and use of Dapsone.
3. Write any two acid resistant Pencillins.
4. Write the structure and use of Fluorescein Sodium.
5. Write the structure and use of Cisplatin.
6. Write the structure and use of Clofibrate and Dicoumarol.
7. Define Anti-thyroid drugs.
8. Write the synthesis of Lindane.
9. Define antidiabetic agents with example.
10. Define encoding.

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