

**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION****THIRD YEAR****PAPER I – PHARMACOLOGY - II***Q.P. Code: 383813***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

Pages (Max.)	Time (Max.)	Marks (Max.)
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1. Classify diuretics according to their sites of action.

Explain the mechanism of action, pharmacological effects, therapeutic uses and adverse effects of loop diuretics.

17 40 min. 20

2. Define signal transduction. Mention various kinase pathways.

Explain any two kinase pathways.

17 40 min. 20

**II. Write notes on :**

1. Clopidogrel.

4 10 min. 6

2. Receptors and therapeutic uses of vasopressin.

4 10 min. 6

3. Tetracycline.

4 10 min. 6

4. Amphotericin B.

4 10 min. 6

5. Nucleoside and nucleotide reverse transcriptase inhibitors.

4 10 min. 6

6. Monoclonal antibodies as immunosuppressants.

4 10 min. 6

7. Acute toxicity studies.

4 10 min. 6

8. Cell cycle regulators and modifiers.

4 10 min. 6

9. Histone deacetylases.

4 10 min. 6

10. Altered gene functions.

4 10 min. 6

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**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION****THIRD YEAR****PAPER I – PHARMACOLOGY - II*****Q.P. Code: 383813*****Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :****Pages Time Marks  
(Max.) (Max.) (Max.)**

- |   |    |         |    |
|---|----|---------|----|
| 1. Define antibiotics. Explain the general mechanism of action of various antibacterial agents.<br>Discuss the pharmacology of penicillins. | 17 | 40 min. | 20 |
| 2. Explain gene transcription and various factors that regulate transcription.  | 17 | 40 min. | 20 |

**II. Write notes on :**

- |  |   |         |   |
|--|---|---------|---|
| 1. Mechanism of action and drug interactions involving warfarin. | 4 | 10 min. | 6 |
| 2. Potassium-sparing diuretics.                                  | 4 | 10 min. | 6 |
| 3. Aminoglycoside antibiotics.                                   | 4 | 10 min. | 6 |
| 4. Classify anti leprotic drugs and discuss about dapsons.       | 4 | 10 min. | 6 |
| 5. Calcineurin inhibitors.                                       | 4 | 10 min. | 6 |
| 6. Chronic toxicity studies.                                     | 4 | 10 min. | 6 |
| 7. Ion channels.   | 4 | 10 min. | 6 |
| 8. MAP kinase pathway.   | 4 | 10 min. | 6 |
| 9. Biosensors.   | 4 | 10 min. | 6 |
| 10. Gene therapy.  | 4 | 10 min. | 6 |

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**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION****THIRD YEAR****PAPER I – PHARMACOLOGY - II***Q.P. Code: 383813***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :**

Pages (Max.)	Time (Max.)	Marks (Max.)
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- |   |    |         |    |
|---|----|---------|----|
| 1. a) Classify anti-neoplastic agents with examples.                                      | 17 | 40 min. | 20 |
| b) Write the mechanism of action, therapeutic uses of methotrexate.                       |    |         |    |
| c) Discuss in detail about general toxicity of cytotoxic agents.                          |    |         |    |
| 2. Define Protein. Discuss the mechanism and various steps involved in Protein synthesis. | 17 | 40 min. | 20 |

**II. Write notes on :**

- |  |   |         |   |
|--|---|---------|---|
| 1. Give the category, mechanism of action and side effects of Tacrolimus.                            | 4 | 10 min. | 6 |
| 2. Write a note on Mutation.   | 4 | 10 min. | 6 |
| 3. Give the mechanism of action and side effects of co-trimoxazole.                                  | 4 | 10 min. | 6 |
| 4. Give the therapeutic uses and mechanism of actions of metronidazole and pyrimethamine.            | 4 | 10 min. | 6 |
| 5. Write the therapeutic uses of ciprofloxacin.  | 4 | 10 min. | 6 |
| 6. Write a note on Heparin antagonist.   | 4 | 10 min. | 6 |
| 7. Write a note on haematinics.  | 4 | 10 min. | 6 |
| 8. Classify diuretics with suitable example.<br>Give the therapeutic uses of thiazide diuretics.     | 4 | 10 min. | 6 |
| 9. Write the mechanism of actions:<br>(i) Acetazolamide      (ii) Vasopressin      (iii) Rifampicin. | 4 | 10 min. | 6 |
| 10. Briefly explain (i) Translocation      (ii) Tumour suppressor gene.                              | 4 | 10 min. | 6 |

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**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY - II**

*Q.P. Code: 383813*

**Time: Three Hours**

**Maximum: 100 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Discuss the life cycle of malarial parasite.  
Classify anti-malarial drugs and explain mechanism of action, adverse effects and therapeutic uses of chloroquine.
2. Discuss the recombinant DNA technology and its Pharmaceutical applications with examples.

**II. Write notes on:**

**(10 x 6 = 60)**

1. State the mechanism of action and advantage of low molecular Heparin.
2. Explain the mechanism of development of bacterial resistance to antibiotics.
3. Write a note on Biosensors.
4. Write a note on treatment of TB as per WHO.
5. Write a note on Oncogenes.
6. What are Plasma Expanders? Give its therapeutic uses.
7. Write a note on immunosuppressive corticosteroids.
8. Write a note on Furosemide.
9. What is chronic toxicity study? Explain its importance in preclinical studies.
10. What is Aldosterone antagonist? Give its mechanism of action and therapeutic uses.

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**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY - II**

*Q.P. Code: 383813*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. What are quinolones?

Write the spectrum of activity, mechanism of action therapeutic uses and adverse reactions of ciprofloxacin.

2. Classify anti cancer drugs with suitable examples.

Write the mechanism of actions, therapeutic uses and adverse effects of paclitaxel.

Add a note on hormones as anticancer drugs.

**II. Write notes on:**

**(10 x 3 = 30)**

1. Write a note on fibrinolytic agents.

2. Write a note on anti amoebic drugs.

3. Write a note on loop diuretics.

4. What are anti diuretic hormones? Give its therapeutic uses.

5. Write a note on acute toxicity studies.

6. What is DNA replication? Give its importance.

7. What are the vectors used in gene transfer?

8. Write a note on gene mapping.

9. What is mean by

a) Mutation

b) Deletion

c) Amplification?

10. What are macromolecules? Give its functions.

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[LE 813]

APRIL 2014

Sub. Code: 3813

**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY - II**

*Q.P. Code: 383813*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Classify anticancer drugs.

Explain the pharmacology of alkylating agents.

2. What is recombinant technology?

Explain the principle, gene transfer technologies and applications of the same.

**II. Write notes on:**

**(10 x 3 = 30)**

1. Oral anticoagulants.

2. Mechanism and therapeutic uses of vasopressin.

3. Antibiotic resistance.

4. Amphotericin.

5. m-TOR inhibitors.

6. Subacute toxicity studies.

7. Janus kinase pathway.

8. Histones.

9. Types of mutation.

10. Gene therapy targets.

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[LF 813]

OCTOBER 2014

Sub. Code: 3813

**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION**

**(2009-2010 Regulation)**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY - II**

***Q.P. Code: 383813***

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. What is cell signaling?

Explain any two kinase signal transduction pathway.

2. Discuss life cycle of malaria.

Classify the antimalarial drug and give pharmacology of chloroquine.

3. Classify the antiplatelet drug.

Write the mechanism of action, adverse drug reaction and therapeutic uses of clopidogrel.

4. Define protein. Explain the mechanism and various steps involved in protein synthesis.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Recombinant technology and its application.

2. Histone deacetylase.

3. Classify the immunosuppressants and its clinical application.

4. Classify the protein synthesis inhibitors and give short note on tetracycline.

5. Write a note on plasma volume expander.

6. Potassium sparing diuretics.

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[LG 813]

APRIL 2015

Sub. Code: 3813

**DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION**

**(2009-2010 Regulation)**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY - II**

***Q.P. Code: 383813***

**Time: Three Hours**

**Maximum: 70 marks**

**Answer All questions**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. What is recombinant technology?  
Explain the principle, gene transfer technology and applications of the same.
2. Classify anticoagulants with examples and explain the pharmacology of heparin.
3. Classify anti-microbial agents with suitable examples and mechanism action of tetracycline antibiotics.
4. Explain the pharmacology of furosemide.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Janus kinase pathway.
2. Gene therapy targets.
3. Write the therapeutic uses of ciprofloxacin.
4. Explain the importance of preclinical toxicity studies.
5. Write a note on co-trimoxazole.
6. Write a note on anti amoebic drugs.

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[LH 813]

OCTOBER 2015

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**

**THIRD YEAR**

**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time: Three Hours**

**Maximum: 70 marks**

**Answer ALL questions**

**I. Elaborate on :**

**(4 x 10 = 40)**

1. Explain gene transcription and various factors that regulate transcription.
2. Define cancer. Classify the anticancer drugs with example, write the Mechanism and therapeutic uses of antimetabolite.
3. Classify the immunosuppressant. Write the mechanism of action, adverse drug reaction, and therapeutic uses of mycophenolate mofetil.
4. Define diuretics. Classify the diuretic according to their site of action and brief the loop diuretics.

**II. Write notes on :**

**(6 x 5 = 30)**

1. Explain various mechanism of development of bacterial resistance to antibiotics.
2. Classify the anti TB Drugs. Write the treatment of TB as per DOTS.
3. Mutation.
4. Write note on Anticoagulants.
5. Define antidiuretic. Write receptor and clinical uses of vasopressin.
6. Brief the Nucleotide Reverse Transcriptase inhibitors.

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[LI 813]

APRIL 2016

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on :**

**(4 x 10 = 40)**

1. Classify the Drugs used in treatment of Malaria with suitable example. Write the mechanism of action, pharmacokinetic, adverse effect and use of Chloroquine.
2. Classify Antiviral drugs, Pharmacological actions and therapeutic uses.
3. Write about various pathway involved in signal Transduction and Ion Channels.
4. What is DNA replication? Write about Eukaryotic DNA replication.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Chemotherapy involved in Leprosy.
2. Classify antifungal antibiotic, write the MOA of AZOLE derivatives.
3. Sulphonamides and Amino glycoside antibiotics.
4. Sub-acute and Chronic Toxicity studies.
5. Plasma expanders.
6. Macromolecules and Large Macromolecular assemblies.

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[LJ 813]

OCTOBER 2016

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Classify Aminoglycoside antibiotics. State the Pharmacological actions, mechanism of action and therapeutic uses.
2. Explain the mechanism of action, spectrum of activity, therapeutic uses and adverse reactions of :  
a) Ciprofloxacin    b) Cefuroxime
3. How cell cycle is regulated? Explain the different phases of cell cycle and factors regulating it.
4. With suitable example, explain Gene transfer in a Plasmid. Add a note on applications of recombinant DNA technology.

**II. Write notes on:**

**(6 x 5 = 30)**

1. State the mechanism of action and therapeutic uses of  
a) Clopidogrel    b) Ferrous compounds
2. Classify anticancer drugs based on its mechanism of action with suitable examples.
3. Write the therapeutic uses and adverse reactions  
a) Zidovudine    b) Metronidazole
4. Biosensors.
5. Give the rationale for the following combination:  
a) Sulbactam with Imipenem    b) INH, Rifampicin and Ethambutol
6. What is meant by transcription? How it is regulated?

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[LK 813]

MAY 2017

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. What is the source and mode of transmission of TB? Explain the treatment procedure and precautions to be taken in TB treatment.
2. What are Thiazide Diuretics? Give example. Write the Pharmacological action, therapeutic uses and adverse reactions of any one Thiazide Diuretics.
3. Explain the cell signal transduction pathways involving Kinases.
4. Classify Macrolide antibiotics and Pharmacological actions with uses.

**II. Write notes on:**

**(6 x 5 = 30)**

1. What is Multi Drug Resistance? How it can be controlled?
2. Explain the factors contributing mutations.
3. Write the mechanism of action, therapeutic uses and adverse reactions of:  
a) Methotrexate    b) Cisplatin
4. Write the category and one therapeutic uses of:  
a) Vasopressin    b) Acyclovir    c) Streptokinase  
d) Trastuzumab    e) Norfloxacin
5. Write a note on subacute toxicity studies.
6. Give the rationale for the following combination:-  
a) Amoxicillin with Clavulanic acid.  
b) Trimethoprim with Sulphamethoxazole.

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[LL 813]

OCTOBER 2017

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Define Biosensors. Write details about types and applications of Biosensors.
2. Classify Anti-viral agents with suitable examples and mechanism of action, pharmacokinetics and adverse effect of zidovudine.
3. Define Gene therapy. Write about gene targeting and gene mapping.
4. Define Antibiotics. Classify penicillin antibiotics, write the pharmacology of Amoxicillin and Clavulanic acid.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Gene expression.
2. Drugs used in protozoal infections.
3. Anti-platelet agents and write MOA of aspirin.
4. Cell cycle regulators and modifiers.
5. Fluoroquinolones.
6. Mechanism of action, adverse effect, resistance and uses of chloramphenicol.

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

[LM 813]

MAY 2018

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Classify Anti-cancer drugs with suitable example. Write the mechanism and therapeutic uses of alkylating agents.
2. Explain the mechanism of action, spectrum of activity, therapeutic uses and adverse reaction of: a) Sulfamethoxazole b) Ciprofloxacin.
3. Discuss recombinant DNA technology and its pharmaceutical applications with examples.
4. What is RNA processing and write about Gene sequencing?

**II. Write notes on:**

**(6 x 5 = 30)**

1. Acute toxicity studies.
2. Anti-amoebic drugs.
3. Potassium sparing diuretics.
4. Mechanism of action and drug interaction involving warfarin.
5. Biosensors.
6. MAP kinase pathway.

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

[LN 813]

OCTOBER 2018

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Classify Anti-malarial agents with suitable examples and write the mechanism of action, pharmacokinetics and adverse effect of chloroquine.
2. Define cell cycle. Explain chromatin structure and flow of genetic information.
3. Classify diuretic agents with suitable examples. Write the pharmacological action, therapeutic uses and adverse reactions of furosemide.
4. Define protein. Discuss the mechanisms and various steps involved in protein synthesis with suitable examples.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Amphotericin B.
2. Chemotherapy involved in leprosy.
3. Monoclonal antibodies as Immuno-suppressants.
4. Biosensors.
5. Gene therapy targets.
6. Anti-platelet agents with a note on mechanism of action of aspirin.

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

[LO 813]

MAY 2019

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION**  
**(2009-2010 Regulation)**  
**THIRD YEAR**  
**PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Classify Anti-microbial agents based on the mechanism of action. Brief on the spectrum of activity along with the mechanism of action of sulfonamide Antibiotics.
2. Explain the Gene transcription and various factors that regulate gene transcription.
3. Explain protein synthesis, its mechanism and altered gene functions.
4. Classify Anti-tubercular agents and write the mechanism of action therapeutic uses and adverse effects of isoniazid.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Anti-coagulants.
2. Therapeutic uses of ciprofloxacin.
3. Plasma expanders.
4. What are macromolecules and write on their functions?
5. Biosensors.
6. Chronic toxicity studies.

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

[LP 813]

OCTOBER 2019

Sub. Code: 3813

**PHARM. D DEGREE EXAMINATION  
(2009-2010 Regulation)  
THIRD YEAR  
PAPER I – PHARMACOLOGY – II**

*Q.P. Code : 383813*

**Time : Three hours**

**Maximum : 70 Marks**

**I. Elaborate on:**

**(4 x 10 = 40)**

1. Classify Anti Cancer drugs. Explain about Alkylating agents.
2. Write the mechanism of action, spectrum of action, adverse effects and therapeutic use of Ciprofloxacin.
3. Discuss the recombinant DNA technology and its pharmaceutical applications.
4. What is Cell Signaling? Explain any two kinase signal transduction pathway.

**II. Write notes on:**

**(6 x 5 = 30)**

1. Write a note on potassium sparing diuretics.
2. Write a note on anti amoebic drugs.
3. State the mechanism of action and advantage of low molecular heparin.
4. Write a note on haematinics.
5. Write the MOA of Dapsone and its therapeutic effects.
6. MAP kinase pathway.

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