MAY 2011

[KY 352] **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATION

(Regulations 2010)

(Candidates admitted from 2010-2011 onwards)

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(6 x 10 = 60)**

1. Write essay on concept, theories and forces involved in drug receptor interaction?
2. Discuss elaborately on fundamentals of QSAR and analysis of results?
3. Discuss various disease targets for gene therapy?
4. Write the pharmacodynamic and pharmacokinetics of peptide and protein drugs?
5. Write elaborately on regulation of gene expression?
6. Write essay on combinatorial chemistry?

II. Write Short Notes : **(8 x 5 = 40)**

1. Discuss isosterism and biological activity?
2. Write a note on Proteonomics?
3. Write briefly about various non viral vectors used in gene therapy?
4. Discuss briefly about applications of DNA recombinant technology?
5. Discuss receptor dimerization and its importance in drug design?
6. Explain lead seeking methods used in drug design?
7. Write a note on gene mapping?
8. Write briefly about rational drug design?

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October 2011

[KZ 352] **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : 3 hours (180 Min) **Maximum : 100 marks**

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. In detail explain the different techniques used in gene transfer. Add a note on disease targets of gene therapy.	17	40	20
2. Define receptor and state its properties. In detail discuss various receptor theories.	17	40	20
II. Write notes on :			
1. Give importance factors to be considered in rational drug designing.	4	10	6
2. What do you understand by isosterism and steric behaviour?	4	10	6
3. How you determine the solubility property of the chemical compound as per monograph?	4	10	6
4. What are QSAR models?	4	10	6
5. Give the importance of proteomics in identification and validation of targets.	4	10	6
6. Explain docking process in drug discovery program.	4	10	6
7. What is Computer Aided Drug Design?	4	10	6
8. Briefly write on peptides as drug molecule.	4	10	6
9. What is mean by protein structure prediction?	4	10	6
10. Define (i) Operons (ii) Exons (iii) Interons (iv) Pseudogenes.	4	10	6

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[LA 352] **MAY 2012** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code: 262913

Time: 3 hours **Maximum: 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Write in detail about the new approaches in drug discovery.	17	40	20
2. Write about the basic considerations of drug design. Add a note on de-novo drug design and lead seeking methods.	17	40	20

II. Write notes on:

1.	Write a note on disease targets in gene therapy.	4	10	6
2.	Write briefly about the forces involved in drug receptor interactions.	4	10	6
3.	Write a note on Array technology.	4	10	6
4.	Write about signal transduction pathway.	4	10	6
5.	Write a note on rational drug design.	4	10	6
6.	Write the applications of Recombinant DNA technology.	4	10	6
7.	Write a note on gene expression and regulation.	4	10	6
8.	Write about gene transfer technologies.	4	10	6
9.	Write a note on prodrug concepts.	4	10	6
10.	Write short notes on receptor polymorphism.	4	10	6

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[LB 352] **NOVEMBER 2012** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMS

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Discuss briefly the fundamentals of QSAR. Write a note on QSAR parameters related to chemical structure and Biological activity.	17	40	20
2. Discuss in detail about receptor polymorphism and dimerization and its importance in drug design.	17	40	20
II. Write Notes on :			
1. Write briefly the prodrug concepts.	4	10	6
2. Write a note on gene mapping.	4	10	6
3. Write about the applications of molecular pharmacology to drug design.	4	10	6
4. Write about de-novo drug design.	4	10	6
5. Write a note on Bio Sensors.	4	10	6
6. Write the clinical applications of gene therapy.	4	10	6
7. Write briefly about computer aided drug design.	4	10	6
8. Write a note on protein structure prediction and their applications.	4	10	6
9. Write a note on Proteomics.	4	10	6
10. Write briefly about gene transfer technologies.	4	10	6

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[LC 352] **APRIL 2013** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : 3 hours **Maximum : 100 marks**

I. Elaborate on : **(2x20=40)**

1. Describe in detail about the basic considerations of drug design. Add a note on de-novo drug design.
2. Explain in detail about the various disease targets for gene therapy. Write about pharmacokinetics of protein drugs.

II. Write notes on : **(10x6=60)**

1. Write a note on pharmacogenomics.
2. Explain in detail about prodrug and its drawbacks.
3. Describe in detail about prediction of protein structure.
4. Write a note on applications of Recombinant DNA technology.
5. Write in detail about the non- viral vectors in gene therapy.
6. Describe a note on complex of events between drug administration and drug action.
7. Explain in detail about the theories of drug receptor interactions.
8. Write in detail about the correlative methods used in QSAR.
9. Explain in detail about the various applications of molecular pharmacology to drug design.
10. Write a note on general approaches to drug design.

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[LD 352] **OCTOBER 2013** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATIONS

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time: Three Hours **Maximum: 100 marks**

Answer ALL questions in the same order.

I. Elaborate on : **(2 x 20 = 40)**

1. What you understand by CADD explain various steps involved in drug design?

2. Explain different gene transfer technologies. What are the applications of gene therapy?

II. Write notes on : **(10 x 6 = 60)**

1. Write a note on 2D pharmacophore.
2. Write a note on array technology.
3. Write a note on pharmacogenomics.
4. What are receptor theories?
5. Explain cell signaling mechanism.
6. Write a note on receptor polymorphism.
7. Explain gene regulation.
8. Write a note on rational drug design.
9. Write a note on biosensors.
10. With suitable diagram explain the structure of a cell membrane.

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[LE 352] **APRIL 2014** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMS
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : 3 hours **Maximum : 100 marks**

I. Elaborate on : **(2x20=40)**

1. Describe in detail about the role of selected physicochemical properties in relation to drug action and drug design.

2. Write in detail about the structural factors in drug design. Add a note on prodrug concepts.

II. Write notes on : **(10x6=60)**

1. Explain in detail about gene mapping.
2. Explain in detail about gene regulation.
3. Write short note on biosensors.
4. Write a note on Recombinant DNA technology.
5. Write in detail about the non-viral vectors in gene therapy.
6. Explain briefly about concept of soft drug.
7. Write a note on Receptor dimerisation.
8. Describe briefly about High Throughput screening.
9. Write a short note on fundamentals of QSAR.
10. Write a note on pharmacogenetics.

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[LF 352] **OCTOBER 2014** **Sub. Code: 2913**

M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER IV – DRUG DESIGN AND MOLECULAR PHARMACOLOGY

Q.P. Code : 262913

Time : Three hours **Maximum : 100 marks**

I. Elaborate on: **(2 x 20 = 40)**

1. What is Pharmacophore? Explain the essential parameters of 3D pharmacophore. Add a note on pro drug concepts.

2. Explain the principle, process and applications of recombinant DNA technology.

II. Write notes on: **(10 x 6 = 60)**

1. What is *de nova* drug design?
2. With suitable example explain the importance of combinatorial chemistry in drug discovery.
3. Why proteomics are given emphasize in drug discovery?
4. What are the forces involved in drug receptor interactions?
5. Explain virtual screening by molecular modeling.
6. What do you understand micro array technology?
7. Explain any one methods of gene transfer.
8. Explain Hansch equation.
9. How physiological informations can be useful in drug development?
10. Write a note on isosterism.

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