

MAY 2011

[KY 346]

Sub. Code: 2907

**M.PHARM. DEGREE EXAMINATION**

**(Regulations 2010)**

**Candidates admitted from 2010-2011 onwards**

**FIRST YEAR**

**BRANCH II – PHARMACEUTICAL CHEMISTRY**

**PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST**

*Q.P. Code : 262907*

**Time : Three hours**

**Maximum : 100 marks**

**Answer All questions**

**I. Essay Questions :**

**(6 x 10 = 60)**

1. Write the application of IR, NMR and mass spectroscopy in the structural elucidation of natural product.
2. Enumerate the role of recombinant DNA Technology in drug discovery.
3. Write the general method of structural elucidation of alkaloids.
4. Write the synthesis and uses of reserpine.
5. Enumerate aminoglycoside antibiotics .Write any four compound.
6. Write the steroidal drug in plant constitution.

**II. Write Short Notes :**

**(8 x 5 = 40)**

1. Write short note on psoralene.
2. Give an account of diosgenin.
3. Write note on antibody production.
4. Detail about oligonucleotide therapy.
5. Write SAR of penicillin.
6. Write the structure and uses of
  - a) clindamycin
  - b) Erythromycin
7. Outline the steps involved in preparation and purification of Insulin.
8. Explain the therapeutic applications of Swertia and phyllanthus niruri.

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October 2011

[KZ 346]

Sub. Code: 2907

**M.PHARM. DEGREE EXAMINATION**

**FIRST YEAR**

**BRANCH II – PHARMACEUTICAL CHEMISTRY**

**PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST**

*Q.P. Code : 262907*

**Time : 3 hours  
(180 Min)**

**Maximum : 100 marks**

**Answer ALL questions in the same order.**

**I. Elaborate on :**

	<b>Pages (Max.)</b>	<b>Time (Max.)</b>	<b>Marks (Max.)</b>
1. Define alkaloid. Classify them with examples. Elucidate the structure of quinine.	17	40	20
2. (a) Explain the importance of GLC and HPLC in separation. (b) Write in detail about currently used synthetic hormones.	17	40	20

**II. Write notes on :**

1. Give the application of IR in structural determination of natural products.	4	10	6
2. Explain the stereochemistry of steroids.	4	10	6
3. Explain the chemistry of rutin.	4	10	6
4. Explain briefly about Cepham and Penam ring systems.	4	10	6
5. Degradation of Penicillin's.	4	10	6
6. Give the general structural elucidation of Terpenoids.	4	10	6
7. Give an account of DNA technology.	4	10	6
8. Explain the chemistry of Psorlene.	4	10	6
9. Explain the role of <i>Gymnema sylvestre</i> .	4	10	6
10. Macrolide antibiotics.	4	10	6

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[LA 346]

MAY 2012

Sub. Code: 2907

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH II – PHARMACEUTICAL CHEMISTRY

PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST

Q.P. Code: 262907

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. (a) Discuss the salient features involved in the isolation, identification and purification of terpenoids.			
(b) Explain the application of IR, NMR, MAS, CD and ORD in the structural elucidation of terpenoids.	17	40	20
2. (a) Give a detailed account of the structural elucidation of cholesterol.	17	40	20
(b) Write a note on cardiac sugars.			

**II. Write notes on:**

1. Briefly explain the chemistry of rutin.	4	10	6
2. Outline the mechanism of beta – lactamase inhibitors.	4	10	6
3. Write a note on cannabinoids.	4	10	6
4. Outline the various methods adopted to clone fragments of DNA.	4	10	6
5. Discuss the synthetic modifications and S.A.R. of macrolides.	4	10	6
6. Enumerate and write the significance of pharmaceutical products based on rDNA technology.	4	10	6
7. Explain the structural constitution of reserpine.	4	10	6
8. Write briefly on the natural products used as antitumour agents.	4	10	6
9. Give the structure and uses of five currently used glucocorticoids.	4	10	6
10. What is P-UVA? Write the chemistry of xanthotoxin.	4	10	6

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[LB 346]

NOVEMBER 2012  
M.PHARM. DEGREE EXAMS  
FIRST YEAR

Sub. Code: 2907

BRANCH II – PHARMACEUTICAL CHEMISTRY  
PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST

*Q.P. Code : 262907*

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. a) Give the structural elucidation of Reserpine. b) Discuss in detail about Terpenoids.	17	40	20
2. Give the structural elucidation of sterols.	17	40	20

**II. Write notes on :**

1. Cephalosporins.	4	10	6
2. Polypeptide antibiotics.	4	10	6
3. Write notes on the drugs used in indigenous System or Antitumour & liver.	4	10	6
4. What are antibodies? Write about them.	4	10	6
5. Transformation of phytosterols into steroidal drugs.	4	10	6
6. Quercetin.	4	10	6
7. Cannabinoids.	4	10	6
8. Application of HPLC to plant constituents.	4	10	6
9. Aminoglycosides.	4	10	6
10. Semi synthetic pencillines.	4	10	6

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[LC 346]

APRIL 2013

Sub. Code: 2907

M.PHARM. DEGREE EXAMS

FIRST YEAR

BRANCH II – PHARMACEUTICAL CHEMISTRY

PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST

*Q.P. Code : 262907*

**Time : 3 hours**

**Maximum : 100 marks**

**I. Elaborate on :**

**(2x20=40)**

1. Discuss the constitution of morphine.
2. Give the mechanism of action and a detailed note on  $\beta$ - Lactam antibiotics.

**II. Write notes on :**

**(10x6=60)**

1. Etoposide and teniposide.
2. Give the general methods for determining
  - a) Hydroxyl group
  - b) Nature of nitrogen in alkaloids
3. Write a note on Quercetin
4. Novel biotechnology derived pharmaceutical products
5. Aminoglycosides
6. Drugs for liver dysfunction in indigenous system
7. Short notes on coumarins
8. Sapogenins
9. Application of IR in Natural products
10. General methods of structural determination of terpenoids

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**M.PHARM. DEGREE EXAMINATIONS****FIRST YEAR****BRANCH II – PHARMACEUTICAL CHEMISTRY****PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST***Q.P. Code : 262907***Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :****(2 x 20 = 40)**

1. (a) Outline the methods of isolation & separation of flavonoid.  
(b) Explain the application of IR, NMR, MASS in the structural elucidation of natural products
2. (a) Discuss the chemistry & S.A.R. of glucocorticoids.  
(b) How do you convert ergosterol to any one of currently used steroid drugs?.

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

1. Discuss the chemistry & mechanism of action of cephem antibiotics.
2. Outline the general chemistry of terpenoids..
3. Write a note on polypeptide antibiotics.
4. Give the therapeutic applications of curcumin.
5. Write a note on synthetic & semisynthetic derivatives of asperlicin & cannabinoids.
6. Define vector and explain their role in rDNA technology.
7. How will you establish the presence of quinoline nucleus and vinyl group in quinuclidine nucleus?
8. Give reasons for using rDNA to alter DNA sequence with relevant example?
9. Write the skeletal structure mechanism and use of
  - a) Thienamycin
  - b) Sulbactan sodium.
10. Briefly explain the structural constitution of quercetin?

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[LE 346]

APRIL 2014

Sub. Code: 2907

**M.PHARM. DEGREE EXAMS  
FIRST YEAR  
BRANCH II – PHARMACEUTICAL CHEMISTRY  
PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST**

*Q.P. Code : 262907*

**Time : 3 hours**

**Maximum : 100 marks**

**I. Elaborate on :**

**(2x20=40)**

1. a) Write the structural elucidation of cholesterol.  
b) Write a detailed note on penicillins with their mechanism of action.
2. a) Give the constitution of Quinine.  
b) Write a detailed note on cardiac glycosides.

**II. Write notes on :**

**(10x6=60)**

1. Write about the application of countercurrent extraction in the separation and analysis of plant constituents.
2. Write notes on Asperlicins.
3. Give the general chemical treatment of terpenoids.
4. Write a note on antisense oligonucleotide therapy.
5. Give a note on Aminoglycosides.
6. Briefly explain about the crude drugs used as antitumour agents.
7. Write a note on cloning of DNA.
8. Explain the transformation of phytosterols into steroidal drugs.
9. Write a short note on Psoralene.
10. How cannabinoids are used as leads for pharmaceuticals.

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[LF 346]

OCTOBER 2014

Sub. Code: 2907

**M.PHARM. DEGREE EXAMINATION  
FIRST YEAR  
BRANCH II – PHARMACEUTICAL CHEMISTRY  
PAPER IV – NATURAL PRODUCTS OF MEDICINAL INTEREST**

*Q.P. Code : 262907*

**Time : Three hours**

**Maximum : 100 marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. a) Give the general method of isolation, identification and purification of steroids.  
b) Discuss the S.A.R of corticosteroids and their synthetic modifications with relevant examples.
2. Elucidate the structure of morphine with various degradation reaction.

**II. Write notes on:**

**(10 x 6 = 60)**

1. Write the chemistry and significance of semi synthetic penicillins.
2. Explain the role of antisense oligo nucleotide in the treatment of human disease.
3. Write a note on isoprene rule with example.
4. Outline the applications of HPLC and GLC in the isolation and identification of plant constituents.
5. Give an account of the therapeutic application of quercetin.
6. Briefly explain the role of pterocarpus Marsupium and salacia reticulata in diabetic therapy.
7. Give the structure, chemistry, mechanism and use of Streptomycin.
8. Write the general chemical test to identify the flavonoid and alkaloid.
9. Give the method of isolation and purification of psoralen.
10. Give an account of etoposide and teniposide.

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