

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

[LL 944]

NOVEMBER 2017

Sub. Code: 2944

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL CHEMISTRY – MPC
PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P.Code: 262944

Time: Three hours

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Write briefly the classification, isolation and isoprene rule of Terpenoids.
b) Give the structural elucidation of Squalene.
2. a) Describe the stereochemistry and nomenclature of steroids.
b) Write the chemistry of male contraceptive agents.

II. Write notes on:

(7 x 5 = 35)

1. Write a note about Lovastatin and Dicoumarol.
2. Give the general methods for determining:
 - a) Hydroxyl group.
 - b) Nature of nitrogen in alkaloids.
3. Active constituents of *Gymnema sylvestre*.
4. Oligonucleotide therapy.
5. Applications of ^1H NMR and ^{13}C NMR in structural characterization.
6. Structural elucidation of Quercetin.
7. Chemistry and significance of Folic acid.

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

[LM 944]

MAY 2018

Sub. Code: 2944

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL CHEMISTRY – MPC
PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P.Code: 262944

Time: Three Hours

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the applications of IR, NMR and Mass spectroscopy in the structural characterization of Morphine and Camphor.
2. Describe the chemistry of β -Lactam antibiotics.

II. Write notes on:

(7 x 5 = 35)

1. Write a short note on Cardiac Glycosides.
2. Chemistry and physiological significance of Vitamin Niacin.
3. Drugs for liver dysfunction in indigenous system.
4. Structural elucidation of Menthol.
5. Etoposide and Teniposide.
6. Recombinant DNA (rDNA) technology.
7. General structural determination methods of Flavonoids.

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

[LN 944]

NOVEMBER 2018

Sub. Code: 2944

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
PHARMACEUTICAL CHEMISTRY – MPC
PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P.Code: 262944

Time: Three Hours

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Define and classify alkaloids with examples.
b) Briefly outline the structure elucidation of Reserpine including its synthesis.
2. Briefly describe about recombinant DNA technology. Add a note on gene therapy.

II. Write notes on:

(7 x 5 = 35)

1. Explain the stereochemistry of steroids.
2. Write the chemistry of Vitamin A.
3. Structural elucidation of Quercetin.
4. Applications of IR in structural characterization of Natural compounds.
5. Write a short note on any two Macrolide antibiotics.
6. Write a note on the drug used in indigenous System for Antitumor therapy.
7. Isolation and purification of Flavonoids.

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

[LO 944]

MAY 2019

Sub. Code: 2944

M.PHARM. DEGREE EXAMINATION
(PCI New regulations 2016)
SEMESTER-I
BRANCH II – PHARMACEUTICAL CHEMISTRY – MPC
PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P.Code: 262944

Time: Three Hours

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Drugs for diabetic therapy in indigenous system.
b) Describe the structural elucidation of ephedrine and morphine.
2. a) Write briefly the classification, isolation and isoprene rule of Terpenoids.
b) Give the structural elucidation of Citral and Menthol.

II. Write notes on:

(7 x 5 = 35)

1. Discuss the structural characterization of Vit D.
2. Describe the chemistry of contraceptive agents.
3. General methods of structural determination of flavonoids.
4. Write a note about Lovastatin and Dicoumarol.
5. Recombinant DNA (rDNA) technology.
6. Applications of IR in structural characterization of natural compounds.
7. Discuss the chemistry of Carbapenems.

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

[LP 944]

NOVEMBER 2019

Sub. Code: 2944

M.PHARM. DEGREE EXAMINATION

(PCI New regulations 2016)

SEMESTER-I

BRANCH II – PHARMACEUTICAL CHEMISTRY – MPC

PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P.Code: 262944

Time: Three Hours

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Describe the degradative reactions of Thiamine, test for method of identification and assay.
b) Chemistry of Cephalosporins.
2. a) Explain Hofmann exhaustive methylation and Van Braun method of ring opening.
b) Ziesel's method of methoxy group determination.

II. Write notes on:

(7 x 5 = 35)

1. Drugs for liver dysfunction in indigenous system.
2. Principles of DNA and RNA estimation.
3. Give the structural elucidation of camphor.
4. Discuss the chemistry of Paclitaxel.
5. Write a short note on Gene therapy.
6. General methods of structural elucidation of Terpenoids.
7. Applications of ¹HNMR in structural characterization of natural compounds.

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

[LQ 0121]

JANUARY 2021

Sub. Code: 2944

(APRIL 2020 EXAM SESSION)

M.PHARMACY DEGREE EXAMINATION

SEMESTER-I (PCI New regulations 2016)

PHARMACEUTICAL CHEMISTRY – MPC

PAPER IV – CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262944

Time : Three hours Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write briefly structure elucidation and stereochemistry of ephedrine and morphine.
2. a) Write the principle behind the estimation of RNA and DNA.
b) Discuss about clinical application and recent advantages in gene therapy.

II. Write notes on:

(7 x 5 = 35)

1. Write note on flavonoids.
2. Write the isoprene rule and general methods of structure elucidation of β -carotene.
3. Stereo chemistry and nomenclature of steroids.
4. Structural characterization of natural compounds of digitalis glycosides.
5. Chemistry and physiological significance of Niacin.
6. Write note on progesterone.
7. Explain the active constituents certain crude drugs used in diabetic therapy.

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

[MPHARM 0122]

**JANUARY 2022
(APRIL 2021 EXAM SESSION)**

Sub. Code: 2944

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS
*Q.P. Code : 262944***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Discuss about Chemistry and physiological significance of Vitamin A.
b) Explain how morphine is acting as a lead compound for designing newer drugs for the treatment of Central nervous system disorders.
2. a) Discuss structural elucidation of quercetin.
b) Explain briefly about chemistry of cardiac glycosides.

II. Write notes on:

(7 x 5 = 35)

1. Classify terpenoids.
2. Application of r-DNA technology.
3. Active constituents of phyllanthus niruri.
4. Structural characterization of penicillin.
5. Chemistry of macrolide antibiotics.
6. Gene Therapy.
7. Stereochemistry of Ergot alkaloids.

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

[MPHARM 0422]

**APRIL 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 2944

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS
*Q.P. Code : 262944***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Discuss Chemistry and physiological significance of Vitamin C.
b) Explain how Lovastatin is acting as a lead compound for designing newer drugs as Cardiovascular agents.
2. a) Write briefly about structural elucidation of flavonoids.
b) Discuss about chemistry of sterols.

II. Write notes on:

(7 x 5 = 35)

1. Structural elucidation of citral.
2. Hybridoma technology.
3. Active constituents of Curcuma longa.
4. Structural characterization of Morphine.
5. Chemistry of beta lactam antibiotics.
6. New pharmaceuticals derived from biotechnology.
7. IR spectra characterization of Digitalis glycosides.

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

[M.PHARM 0922]

**SEPTEMBER 2022
(APRIL 2022 EXAM SESSION)**

Sub. Code: 2944

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code : 262944

Time : Three hours Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the application of IR, NMR and mass spectroscopic characterization of Penicillin.
2. Write the chemistry and biological significance of folic acid and vitamin A.

II. Write notes on:

(7 x 5 = 35)

1. Write the principle of DNA estimation.
2. Application of mass spectroscopy.
3. Structural elucidation of Quercetin.
4. Write a short note on diabetic therapy.
5. Discuss the structural characterization of citral.
6. Explain the stereochemistry and nomenclature of steroids.
7. Describe the chemistry of contraceptive agent for female sex hormones.

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

[M.PHARM 0423]

**APRIL 2023
(OCTOBER 2022 EXAM SESSION)**

Sub. Code: 2944

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code: 262944

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write the general methods of structural determination of flavonoids and structural elucidation of quercetin.
2. Write the clinical application and recent advance in recombinant DNA technology.

II. Write notes on:

(7 x 5 = 35)

1. Write the chemistry and biological significance of vitamin A.
2. Write short notes on curcuma longa linn.
3. Write a note on Lovastatin and Dicoumarol.
4. Write the chemistry of cephalosporins.
5. Stereochemistry of Ergot.
6. Chemistry and physiological significance of cyanocobalamin.
7. Explain: Liver dysfunction.

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

[M.PHARM 0823]

AUGUST 2023
(APRIL 2023 EXAM SESSION)

Sub. Code: 2944

M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code: 262944

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Enumerate briefly the chemistry and structure elucidation of cholesterol.
b) Describe the clinical applications and advances in gene therapy.
2. a) Brief the general methods of structural elucidation of terpenoids.
b) Systematically elucidate the structure of quercetin.

II. Write notes on:

(7 x 5 = 35)

1. Write a note on Kuhn – Roth method & Herzig Meyer method in structure determination in alkaloids.
2. Explain various mass spectral methods of elucidating the structure of penicillin.
3. Explain the active constituents with structure present in Curcuma longa Linn.
4. Write a note on the chemistry of sterols.
5. Write briefly on the history and chemical aspects of antimalarial drugs and its analogues.
6. Explain the physiological significance of vitamin B series.
7. Brief out the application of IR spectroscopy in structure determination of natural compounds.

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

[M.PHARM 1223]

DECEMBER 2023
(OCTOBER 2023 EXAM SESSION)

Sub. Code: 2944

M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code: 262944

Time : Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Write the stereochemistry and nomenclature of adrenocorticoids and vitamin D.
2. Discuss about the chemistry of beta lactam antibiotics.

II. Write notes on:

(7 x 5 = 35)

1. Write a note on antimalarial drugs.
2. Structural elucidation and stereochemistry of morphine.
3. Explain about hybridoma technology.
4. Write the application of IR spectroscopy.
5. Write about isolation and purification of flavonoids.
6. Discuss the chemistry of carbapenems.
7. Briefly explain the Stereochemical aspects of Ephedrine.

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

[M.PHARM 0524]

MAY 2024
(APRIL 2024 EXAM SESSION)

Sub. Code: 2944

M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code: 262944

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Explain briefly the source, isolation and chemistry of morphine alkaloids.
b) Write a detailed note on the crude drugs used in diabetic therapy.
2. a) Enumerate the systematic elucidation of the structure of Vitamin A.
b) Sketch out the structure of reserpine through systematic elucidation.

II. Write notes on:

(7 x 5 = 35)

1. Explain the stereochemical aspects of ephedrine.
2. Brief out various methods utilized in the isolation and purification of flavonoids.
3. Write the principle involved in DNA & RNA estimation.
4. Define isoprene rule. Write the method of determination of double bonds in terpenoids.
5. Write a note on teprotide.
6. Briefly elucidate the structure of retinol.
7. Explain the chemistry of β – Lactam antibiotics.

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

[M.PHARM 0425]

APRIL 2025

Sub. Code: 2944

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code: 262944

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Discuss Chemistry and physiological significance of Vitamin C.
b) Explain how Lovastatin is acting as a lead compound for designing newer drugs as Cardiovascular agents.
2. a) Write briefly about structural elucidation of flavonoids.
b) Discuss about chemistry of sterols.

II. Write notes on:

(7 x 5 = 35)

1. New pharmaceuticals derived from biotechnology.
2. Hybridoma technology.
3. Active constituents of Curcuma longa.
4. Antimalarial analogues.
5. Write note on progesterone.
6. Write the chemistry of cephalosporins.
7. Structural elucidation of Quarcetin.

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

[M.PHARM 1025]

OCTOBER 2025

Sub. Code: 2944

M.PHARMACY DEGREE EXAMINATION
SEMESTER - I (PCI New Regulations 2016)
PHARMACEUTICAL CHEMISTRY - MPC
PAPER IV - CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code: 262944

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Enumerate the general structural elucidation and general identification tests of alkaloids.
2. a) Explain briefly on the importance of ^1H NMR and ^{13}C NMR in the structural characterization of morphine.
b) Write the chemistry and stereochemistry of curare alkaloids.

II. Write notes on:

(7 x 5 = 35)

1. Explain briefly the chemistry of macrolide antibiotics.
2. Define terpenoids. Classify and brief out the general isolation and purification techniques of terpenoids.
3. Write a note on the chemistry of Vitamin C.
4. Write a note on cardiac glycosides.
5. Brief out the chemistry and uses of anticancer natural products.
6. Write a note on the role of hybridoma technology in the production of monoclonal antibodies.
7. Write a detailed note on *Phyllanthus niruri*.
