

[KY 348]

MAY 2011

Sub. Code: 2909

M.PHARM. DEGREE EXAMINATION
(Regulations 2010)
(For candidates admitted from 2010-2011 onwards)

FIRST YEAR

BRANCH III – PHARMACOGNOSY

PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(6 x 10 = 60)

1. What are steroids? Discuss the chemistry and stereochemistry of Cholesterol.
2. Give the industrial method of isolation and estimation of
 - a) Sennosides.
 - b) Diosgenin.
3. Elaborate on the screening methods of cardiac activity of natural products.
4. Give a detailed note on anti fertility activity.
5. Dwell on the industrial method of isolation and estimation of
 - a) Tannic acid.
 - b) Pectin.
6. Explain the biosynthesis, isolation and estimation of Atropine.

II. Write notes on :

(8 x 5 = 40)

1. Psychopharmacological activity.
2. Forskolin.
3. Estimation of Digoxin.
4. Isolation and purification of Insulin.
5. Chemical structure, estimation and uses of Quinine.
6. Production of Vitamin B₁₂.
7. Antineoplastic activity.
8. Hepatoprotective activity.

M.PHARM. DEGREE EXAMINATION**FIRST YEAR****BRANCH III – PHARMACOGNOSY****PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS****Q.P. Code : 262909****Time: Three Hours****Maximum: 100 marks****Answer ALL questions in the same order.****I. Elaborate on :****Pages Time Marks
(Max.) (Max.) (Max.)**

- | | | | |
|---|----|---------|----|
| 1. Discuss the biosynthesis, chemistry, isolation and estimation of Digoxin. | 17 | 40 min. | 20 |
| 2. Describe in details the various methods used for screening of Hepato protective and Diuretic activity. | 17 | 40 min. | 20 |

II. Write notes on :

- | | | | |
|---|---|---------|---|
| 1. Aromatic biosynthesis. | 4 | 10 min. | 6 |
| 2. Preparation of corticosteroids. | 4 | 10 min. | 6 |
| 3. Industrial methods of isolation of Quinine. | 4 | 10 min. | 6 |
| 4. Industrial methods of isolation of Hesperidin. | 4 | 10 min. | 6 |
| 5. Chemistry and estimation of Vitamin-A. | 4 | 10 min. | 6 |
| 6. Isolation and estimation of Oxytocin. | 4 | 10 min. | 6 |
| 7. Screening for Hypoglycemic activity. | 4 | 10 min. | 6 |
| 8. Biosynthesis of Vinblastine. | 4 | 10 min. | 6 |
| 9. Carbohydrate utilization. | 4 | 10 min. | 6 |
| 10. Biosynthesis and chemistry of Tetracyclines. | 4 | 10 min. | 6 |

M.PHARM. DEGREE EXAMINATION**FIRST YEAR****BRANCH III – PHARMACOGNOSY****PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS****Q.P. Code : 262909****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. Describe in detail about various methods of screening of natural products for
(i) Antineoplastic activity
(ii) Antifertility activity. | 17 | 40 min. | 20 |
| 2. Write in detail about the occurrence, chemistry, biosynthesis and estimation of Penicillin. | 17 | 40 min. | 20 |

II. Write notes on:

- | | | | |
|---|---|---------|---|
| 1. Isolation and estimation of Atropine. | 4 | 10 min. | 6 |
| 2. Screening of Invitro Antioxidant activity. | 4 | 10 min. | 6 |
| 3. Isoprenoid Biosynthesis and its significance. | 4 | 10 min. | 6 |
| 4. Chemistry of Insulin. | 4 | 10 min. | 6 |
| 5. Chemistry of Vitamin-B12. | 4 | 10 min. | 6 |
| 6. Screening for antiviral activity. | 4 | 10 min. | 6 |
| 7. Chemistry and therapeutic uses of Tetracyclines. | 4 | 10 min. | 6 |
| 8. Estimation and biosynthesis of Morphine. | 4 | 10 min. | 6 |
| 9. Isolation and estimation of Tannic acid. | 4 | 10 min. | 6 |
| 10. Stereochemistry of Cholesterol. | 4 | 10 min. | 6 |

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(Max.) (Max.) (Max.)**

- | | | | |
|--|----|---------|----|
| 1. Occurrence, chemistry, biosynthesis, isolation and purification of Penicillin. | 17 | 40 min. | 20 |
| 2. Screening methods of Cardiac activity and Antifertility activity of natural products. | 17 | 40 min. | 20 |

II. Write Notes on :

- | | | | |
|---|---|---------|---|
| 1. Isolation and purification of Insulin. | 4 | 10 min. | 6 |
| 2. Chemical structure, estimation and uses of Quinine. | 4 | 10 min. | 6 |
| 3. Screening of Invitro antioxidant activity. | 4 | 10 min. | 6 |
| 4. Biosynthesis and estimation of Atropine. | 4 | 10 min. | 6 |
| 5. Industrial method of isolation and estimation of Pectin. | 4 | 10 min. | 6 |
| 6. Hepatoprotective activity. | 4 | 10 min. | 6 |
| 7. Production of Vitamin B12. | 4 | 10 min. | 6 |
| 8. Isoprenoid biosynthesis. | 4 | 10 min. | 6 |
| 9. Chemical structure & estimation of Sennosides. | 4 | 10 min. | 6 |
| 10. Isolation of Vasopressin and Oxytocin. | 4 | 10 min. | 6 |

[LC 348]

APRIL 2013

Sub. Code: 2909

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH III – PHARMACOGNOSY

PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Study of techniques employed in the elucidation of Biosynthetic pathways.
2. General methods of screening natural products for
 - a) Hypoglycemic activity and
 - b) Diuretic activity.

II. Write notes on :

(10 x 6 = 60)

1. Aromatic Biosynthesis.
2. Estimation of Digoxin.
3. Chemical structure and uses of Atropine, Folic acid and Scillaren A.
4. Industrial method of isolation and estimation of Citric acid.
5. Antiulcer activity.
6. Hepatoprotective activity.
7. Stereochemistry of Cholesterol.
8. Photosynthesis.
9. Differentiate transpiration and guttation.
10. Isolation of Hesperidin.

[LD 348]

OCTOBER 2013

Sub. Code: 2909

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH III – PHARMACOGNOSY

PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Describe in detail about various methods of screening of natural products for
 - a) Cardiac activity
 - b) Hepato protective activity.
2. Write in detail about the occurrence, chemistry, biosynthesis and estimation of ergometrine.

II. Write notes on :

(10 x 6 = 60)

1. Industrial methods of isolation and estimation of digoxin.
2. Screening of diuretic activity.
3. Biosynthesis of shikimic acid pathway and its significance.
4. Chemistry of oxytocin.
5. Chemistry of Vitamin C.
6. Screening for hypoglycemic activity.
7. Chemistry and therapeutic uses of semisynthetic penicillin.
8. Estimation and biosynthesis of folic acid.
9. Industrial methods of isolation and estimation of quinine.
10. Tracer techniques.

[LE 348]

APRIL 2014

Sub. Code: 2909

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH III – PHARMACOGNOSY

PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Write an account on the occurrence, chemistry, biosynthesis, isolation and estimation of vinblastine.
2. Write a detail note on the biological evaluation of plant products for
 - a) Psychopharmacological activity.
 - b) Antiulcer activity

II. Write notes on :

(10 x 6 = 60)

1. Photosynthesis and its significance.
2. Isoprenoid biosynthesis and its significance.
3. Chemistry of scillaren-A.
4. Industrial methods of isolation and estimation of sennosides.
5. Screening for antibacterial activity.
6. Chemistry and estimation of vasopressin.
7. Screening for anti-inflammatory activity.
8. Industrial methods of isolation and estimation of digoxin.
9. Chemistry, estimation and therapeutic uses of tetracyclines.
10. Chemistry and estimation of vitamin A.

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FIRST YEAR

BRANCH III – PHARMACOGNOSY

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Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Describe the occurrence, biosynthesis, chemistry, isolation and estimation of morphine.
2. Discuss the biological screening of natural products for
 - a) Anti-inflammatory activity.
 - b) Antiviral activity.

II. Write notes on :

(10 x 6 = 60)

1. Chemistry and biosynthesis of digoxin.
2. Industrial methods of isolation and estimation of diosgenin.
3. Chemistry and estimation of oxytocin.
4. Chemistry and biosynthesis of atropine.
5. Aromatic biosynthesis and its significance.
6. Screening natural products for diuretic activity.
7. Chemistry of corticosteroids.
8. Industrial methods of isolation and estimation of forskolin.
9. Tracer techniques and its applications.
10. Screening natural products for antiulcer activity.

[LG 348]

APRIL 2015

Sub. Code: 2909

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH III – PHARMACOGNOSY

PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS

Q.P. Code : 262909

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Discuss in detail about the Biosynthesis, Chemistry, Isolation, and Purification of Penicillin.
2. Describe in detail about various methods of screening of natural products for Hepato Protective Activity.

II. Write notes on :

(10 x 6 = 60)

1. Photosynthesis.
2. Methods of isolation and purification of Vasopressin.
3. Chemistry of Reserpine.
4. Vitamin - B12.
5. Industrial method of isolation of Quinine.
6. Screening of natural products for antiviral activity.
7. Industrial methods of isolation and estimation of Diosgenin.
8. Chemistry and estimation of Scillaren-A.
9. Industrial method of isolation of Forskolin.
10. Industrial method of isolation of Pectin.

[LI 348]

APRIL 2016

Sub. Code: 2909

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH III – PHARMACOGNOSY
PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code : 262909

Time : Three hours

Maximum : 100 Marks

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

1. Describe in detail about the Occurrence, Biosynthesis, Chemistry, Isolation and estimation of Vitamin-A.
2. Discuss in detail about the various methods of screening of natural products for Antineoplastic Activity.

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

1. Aromatic Biosynthesis.
2. Isolation and Purification of Insulin.
3. Industrial methods of isolation and estimation of Ergometrine.
4. Chemistry and estimation of Hypercin.
5. Chemistry and estimation of Vitamin-C.
6. Biosynthesis of Cholesterol.
7. Estimation of Morphine.
8. Industrial methods of isolation of Sennosides.
9. Screening methods for Diuretic Activity.
10. Industrial methods of isolation and estimation of Hesperidin.

[LJ 348]

OCTOBER 2016

Sub. Code: 2909

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH III – PHARMACOGNOSY
PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code : 262909

Time : Three hours

Maximum : 100 Marks

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

1. Techniques employed in the elucidation of biosynthetic pathways.
2. a) Penicillin biosynthesis.
b) Chemistry and stereochemistry of Cholesterol.

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

1. Vitamin A.
2. Tetracycline.
3. Cardiac activity.
4. Anti microbial activity.
5. Photosynthesis.
6. Shikimic acid pathway.
7. Production and applications of Tannic acid.
8. Chemical structure and uses of Hesperidin, Emetin.
9. Isoprenoid biosynthesis.
10. Vasopressin.

[LK 348]

MAY 2017

Sub. Code: 2909

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH III – PHARMACOGNOSY
PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code: 262909

Time : Three hours

Maximum : 100 Marks

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

1. Describe in detail about the screening of the natural products for
 - a) Psychopharmacological activity
 - b) Antifertility activity
2. Write in detail about the occurrence, chemistry, biosynthesis and estimation of Morphine.

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

1. Photosynthesis and formation of secondary metabolites.
2. Chemistry of Atropine.
3. Screening of natural products for antibacterial activity.
4. Vitamin B12.
5. Biosynthesis of penicillins and semisynthetic penicillins.
6. Industrial production of citric acid.
7. Estimation of digoxin.
8. Forshkolin.
9. Ergometrine.
10. Carbohydrate utilization.

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

[LP 348]

OCTOBER 2019

Sub. Code: 2909

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH III – PHARMACOGNOSY
PAPER III – BIOGENESIS AND CHEMISTRY OF NATURAL PRODUCTS**

Q.P. Code: 262909

Time : Three hours

Maximum : 100 Marks

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

1. Discuss in detail about the biosynthesis, chemistry, isolation and estimation of Cardiac Glycosides.
2. Describe in detail about the methods of screening of crude drugs for:
a) Hypoglycemic activity b) Hepatoprotective activity.

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

1. Chemistry of insulin.
2. Aromatic bio-synthesis.
3. Technique in the elucidation of bio-synthetic pathways.
4. Industrial isolation of sennosides.
5. Diuretic activity screening methods of natural products.
6. Bio-synthesis of morphine.
7. Vitamin A and C.
8. Forskolin.
9. Carbohydrate utilization.
10. Estimation of oxytocin and pectin.
