

[KG 311]

MARCH 2002

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours

Maximum : 100 marks

Answer ALL Four questions.

All questions carry equal marks.

1. (a) Explain the various techniques involved in the elucidation of plant biosynthetic pathways. (13)

(b) Describe the different systems of classification of crude drugs with their merits and demerits. (12)

2. (a) What is Chemotaxonomy? Discuss the chemotaxonomic significance of flavonoids. (13)

(b) Write a brief account of fermentation technology and its application. (12)

3. (a) Trace the history and development of plant tissue culture. (12)

(b) Discuss the importance of the various nutrient used in the preparation of media in tissue culture. (13)

4. Write short notes on :

(a) Isolation of sennosides

(b) Auxins and Gibberellins

(c) Commerce of Natural Medicinal products

(d) Biosynthesis of atropine.

APRIL 2003

[KI 311]

Sub. Code : 1031

(For candidates admitted from 2001–2002 onwards)

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) What are the pharmacopoeal methods of evaluation of crude drugs? (13)

(b) What are plant growth regulators? What are its uses in improving the yield of active constituents in medicinal plants? (12)

2. Write in detail the Chemistry of

(a) Atropine. (13)

(b) Vinblastine. (12)

3. Briefly describe the different methods of estimation of

(a) Morphine. (13)

(b) Penicillin. (12)

4. Briefly discuss the present status of herbal drug industry and its export potential. (25)

OCTOBER 2003

[KJ 311]

Sub. Code : 1031

(For candidates admitted from the year
2001-2002 onwards)

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) What are pharmacopoeal standards of crude drugs? Explain with suitable examples. (13)
(b) Briefly describe the uses of plant growth hormones. (12)
2. (a) What are the basic metabolic pathways leading to the production of secondary metabolites. (13)
(b) Design an industrial Fermentor suitable for the production of penicillin. (12)
3. (a) What are the nutrients essential for the production of plant tissues culture. (13)
(b) Describe the biogenetic pathway of reserpine and digoxin. (12)

4. Write short notes on :

- (a) Tracer techniques (6)
- (b) Chemotaxonomy (6)
- (c) Immobilized enzymes (6)
- (d) Assay of atropine. (7)

APRIL 2004

[KK 311]

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M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and Sec. A & B : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

SECTION A

Long Essay : (2 × 15 = 30)

1. Give a detailed account of fermentation technology with examples and applications. (15)
2. Write an essay on the importance of pharmacognostical evaluation and their importance in the raw material standardisation with suitable examples. (15)

SECTION B

Write Notes on : (10 × 5 = 50)

3. Tissue culture media
 4. Morphine
 5. Shikimic acid pathway
 6. Callus culture
 7. Biosynthesis of cholesterol
 8. Chemotaxonomy
 9. Digoxin
 10. Alkaloids derived from ornithine
 11. Sennosides
 12. Atropine.
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AUGUST 2004

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Sub. Code : 1031

SECTION B

(For candidates admitted from the year 2001-2002 onwards)

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

SECTION A

Long Essay : (2 × 15 = 30)

1. How plant tissue culture helps in drug development through phytobiotechnology? State briefly the importance of embryo culture. Discuss the importance of totipotency in phytobiotechnology.

(7 + 4 + 4)

2. State the main features of quality control of phytomedicines as prescribed by World Health Organisation. What do you mean by finger printing of phytochemicals? Enumerate briefly importance of finger printing in quality control of herbal medicine. (7 + 3 + 5)

Questions of 5 marks : (10 × 5 = 50)

3. State the various chromatographic techniques used for quality control of quality medicine.
4. Write the importance of plant growth regulators.
5. Write short notes on growth kinetics.
6. State the macroscopic parameters for standardisation of herbal raw material.
7. What is neutraceutical? Explain with examples.
8. Write short notes on sikimic acid pathway.
9. State the biosynthetic procedure for production of atropine.
10. Make a schematic diagram explaining the procedure for plant tissue culture.
11. State the importance of chemotaxonomy in classification of crude drugs.
12. Write short notes on media used for plant tissue culture.

FEBRUARY 2005

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SECTION B — (10 × 5 = 50 marks)

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Paper II — ADVANCED PHARMACOGNOSY

**(For candidates admitted from the year 2001–2002
onwards)**

Time : Three hours

Maximum : 100 marks

Sec. A & B : Two hours and

Sec. A & B : 80 marks

forty minutes

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. Discuss the role of auxins of gibberillins on pattern of growth and growth Kinetics in medicinal plants.

2. Describe the isolation and estimation of Sennosides.

3. Classification of crude drugs.
4. Immobilized enzymes.
5. Herbal cosmetics.
6. Importance of medicinal plants in herbal drug industry.
7. Biosynthesis of Cholesterol.
8. Yeast.
9. Pharmacognostic Evaluation.
10. Production of Dextrose from starch.
11. Quantitative microscopy.
12. Biosynthesis of morphine.

AUGUST 2005

[KN 311]

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(Revised Regulations)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

(For candidates admitted from the year 2001–2002 onwards)

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay : (2 × 15 = 30)

1. Describe the basic metabolic pathways. Discuss the chemistry and biosynthesis of morphin and digoxin. Write a brief note on isolation and estimation of sennosides. (5 + 5 + 5)

2. Write a note on application of plant tissue culture in herbel drug development. Discuss the importance of orgenogenesis and totipotency in phytobiotechnology. (7 + 8)

II. Short notes : (10 × 5 = 50)

1. Write a note on nutraceuticals with example.

2. Explain the significance of serotaxonomy.

3. Explain the importance of growth kinetics.

4. Discuss the use of nutrients and minerals supplements in drug improvement.

5. Outline briefly the W.H.O. guidelines of standardization of formulation. (Herbel).

6. Outline the biosynthesis of cholesterol.

7. Describe briefly the production of penicillin.

8. Write a note on growth regulator.

9. Write a briefly note on H.P.T.L.C.

10. Explain the DNA hybridization technique in chemotaxonomy.

MARCH 2006

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First Year

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Paper II — ADVANCED PHARMACOGNOSY

**(For candidates admitted from the year 2001–2002
onwards)**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay : (2 × 15 = 30)

**1. What are the nutrients essential for the
production of plant tissue culture?**

**2. Give detailed account of fermentation technology
with examples and application.**

II. Short notes on : (10 × 5 = 50)

- 1. Morphine**
- 2. Assay of Atropine**
- 3. Sennosides**
- 4. Auxins and Gibberellins**
- 5. Growth kinetics**
- 6. Chemotaxonomy**
- 7. Biosynthesis of cholesterol**
- 8. Yeast**
- 9. Herbal cosmetics**
- 10. Shikimic acid pathway.**

[KQ 337]

MARCH 2007

Sub. Code : 2873

M.Pharm. DEGREE EXAMINATION.

(Regulations 2006)

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay :

1. Explain chemistry, biosynthesis, general methods of isolation and analysis of alkaloids. (20)

2. Define plant tissue culture and culture media. Classify different plant tissue culture techniques and discuss briefly industrial applications of tissue culture. (15)

3. (a) Discuss the pharmacological screening of Anti-cancer drugs.

(b) Explain the role of pharmacognosy in herbal industry. (15)

II. Short notes : (6 × 5 = 30)

1. What do you understand by Ethnobotany And Chemotaxonomy?

2. Define fermentation, and discuss briefly design and operation of industrial fermentors.

3. Discuss briefly plant growth regulators.

4. Explain good agricultural practices in cultivation.

5. Discuss the classification of herbal drugs with special importance to chemotaxonomy.

6. Explain the quality control of herbal drugs with reference to WHO guide line.

SEPTEMBER 2007

[KR 337]

Sub. Code : 2873

M.Pharm. DEGREE EXAMINATION.

First Year

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Time : Three hours Maximum : 100 marks

Theory : Two hours and Theory : 80 marks
forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay :

(1) Describe the role of Pharmacognosy in the herbal industry. (20)

(2) Elaborate on the principles of phytochemical study of glycosides. (15)

(3) (a) Describe the basic chemistry and biosynthesis of Flavanoids.

(b) Give the general methods of isolation and methods of analysis of Carbohydrates. (15)

II. Short notes : (6 × 5 = 30)

(1) Classify herbal drugs with examples.

(2) Write a note on chemotaxonomy.

(3) Comment upon the international trade of herbal drugs.

(4) Give a brief review on problems encountered in maintenance of quality of crude drugs.

(5) Comment upon good practices in cultivation.

(6) Describe the role of plant growth regulators.

September 2008

[KT 337]

Sub. Code : 2873

M.Pharm. DEGREE EXAMINATION.

First Year

(Regulations 2006)

Branch VIII — Phytopharmacy and Phytomedicine

Paper II — ADVANCED PHARMACOGNOSY

Q.P. Code : 262873

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Long Essay : (3 × 20 = 60)

1. (a) Elaborate on good practices in cultivation.
(b) Describe the role of pharmacognosy in the herbal industry.
2. (a) Classify herbal drugs with special reference to chemotaxonomy.
(b) Comment upon international trade of herbal drugs.

3. (a) Highlight the need and importance of Quality control of crude drugs.

(b) Describe and discuss the WHO guidelines with reference to Quality control of herbal drugs.

II. Short Notes on : (8 × 5 = 40)

1. Plant growth regulators.
2. Weed and pest control.
3. Highlight the recent advances in Pharmacognosy.
4. Describe the in vivo screening methods for Immunomodulatory drugs.
5. Describe the role of biomarkers in crude drug analysis.
6. Describe the phytochemistry of carbohydrates.
7. Add a note on plant tissue culture.
8. Describe the advances in fermentation technology.

March 2009

[KU 337]

Sub. Code: 2873

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch VIII – PHYTOPHARMACY AND PHYTOMEDICINE

Paper II – ADVANCED PHARMACOGNOSY

Q.P. Code : 262873

Time : Three hours

Maximum : 100 marks

Answer All questions

I. Essay Questions : (3 x 20 = 60)

1. Describe in vivo methods of screening for antidiabetic drugs and immunomodulatory drugs.
2. Explain the production of secondary plant metabolites by fermentation technology and add a note on the production of ergot alkaloids.
3. Discuss the biosynthesis, general methods of isolation and methods of analysis of flavanoids.

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

1. Role of biomarkers in crude drug analysis.
2. Chemotaxonomy.
3. Pest control techniques.
4. Plant growth regulators.
5. International trade of herbal drugs.
6. Microscopical evaluation of herbal drugs.
7. Pharmacological classification of herbal drugs.
8. Flavoring agents.

September 2009

[KV 337]

Sub. Code: 2873

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch VIII – PHYTOPHARMACY AND PHYTOMEDICINE

Paper II – ADVANCED PHARMACOGNOSY

Q.P. Code : 262873

Time : Three hours

Maximum : 100 marks

Answer All questions

I. Essay Questions :

(3 x 20 = 60)

1. a) Outline laboratory requirements for the cultivation of plant cells.
b) Discuss the common protocols of suspension culture and explain its utility in the elaboration of a secondary metabolite of commercial significance.
2. a) Classify alkaloids based on amino acid precursors.
b) Explain with the schematic pathway and the biogenetic origin of alkaloids derived from ornithine.
3. a) Present a brief review of indigenous drugs with anticancer property.
b) describe the contributions of phytochemical research to chemotaxonomy.

II. Write Short Notes :

(8 x 5 = 40)

1. Applications of cell division hormones.
2. Fermentative production of plant secondary metabolites.
3. Methods of isolation and analysis of polysaccharides.
4. Characterization of composition of volatile oils.
5. Hypolipidemic plant drugs.
6. Mechanism of anti inflammatory activity of flavonoids.
7. Role of bio markers in crude drug analysis.
8. Biological methods of pest control.

March 2010

[KW 337]

Sub. Code: 2873

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch VIII – PHYTOPHARMACY AND PHYTOMEDICINE

Paper II – ADVANCED PHARMACOGNOSY

Q.P. Code : 262873

Time : Three hours

Maximum : 100 marks

Answer All questions

I. Essay Questions :

(3 x 20 = 60)

1. a) Discuss the ideal characteristics of a biological assay for use in high through put screening.
b) Outline the strategies for the selection of plant material for high through put screening.
2. a) Describe the methods of assessment of immuno modulatory potential of a plant drug.
b) Write an essay on immuno modulatory plant drugs and their possible mechanism of action.
3. a) Trace the biogenic pathway of formation of flavonoids.
b) Discuss the general methods of isolation of tannic acid.

II. Write Short Notes :

(8 x 5 = 40)

1. Chemical methods of determination of moisture content in crude drugs.
2. Environmental factors influencing plant cultivation.
3. Chemotaxonomy.
4. Techniques in protoplast fusion.
5. Elicitors and induced production of plant secondary metabolites.
6. Merits and demerits of carbontetrachloride as a hepato toxicant.
7. Methods of screening for analeptic activity.
8. Role of ethnobotany in medicinal plant research.
