[LB 4268] **AUGUST 2012** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAM

Paper II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: 180 Minutes **Maximum : 100 marks**

(180 Min) Answer ALL questions in the same order.

I. Elaborate on:	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. a. Dwell on the utilization of radioactive isotopes in the investigation of biogenetic studies. b. Stability test for herbal extracts.	19	33	20
2. Elaborate on the preparation and standardization of a. Bhasmas b. Lehyas	19	33	20
II. Write notes on:			
1. Biosynthesis of morphine.	3	8	5
2. Brief note on basic metabolic pathways leading to the formulation of plant secondary metabolites.	3	8	5
3. Types of allergenic extracts.	3	8	5
4. Production and applications of quinoline alkaloids.	3	8	5
5. Note on single cell culture.	3	8	5
6. Principle of sidha system of medicine.	3	8	5
7. Preparation of aristas.	3	8	5
8. Export potential of medicinal and aromatic plants of India.	3	8	5
III. Short Answers:			
1. Define asavas.	1	5	2
2. What are allergens? Give examples.	1	5	2
3. What are enzyme reactors?	1	5	2
4. Chemical structure and uses of menthol, citric acid.	1	5	2
5. Applications of pectinase, papain.	1	5	2
6. Different methods of feeding radio isotopes in tracer techniques.	1	5	2
7. Define totipotency.	1	5	2
8. Role of plant tissue culture in production of secondary metabolites.	1	5	2
9. What are gutikas?	1	5	2
10. Give examples of phytoconstituents subjected to spectral analysis.	1	5	2

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(LC 4268) **FEBRUARY 2013** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAM

Paper II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

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

(180 Min)

I. ELABORATE ON: (2x20 = 40)

1. (a) Explain the methods for the isolation of secondary metabolites from crude plant material
   (b) Define culture. Explain the types of plant tissue culture and application of tissue culture in pharmacy. [10 + 10]

2. (a) Explain the industrial production and utilization of tropane alkaloids
   (b) Describe the WHO guidelines for assessment of herbal medicines [10 + 10]

II SHORT NOTES (8x 5 = 40)

1. Purification of enzymes
2. Export potential of medicinal plants
3. Role of infra red spectroscopy in evaluation of plant constituents
4. Biogenesis of morphine
5. Estimation of heavy metals in herbal preparations
6. Write a note of allernergic extracts
7. Plants having anti HIV activity
8. Write a note on Siddha and Homeopathy

III SHORT ANSWERS (10 x 2 = 20)

1. Define totipotency
2. Uses of pepsin
3. Difference between churnas and lehyas
4. Define cloning
5. Enumerate plants with anti viral potency
6. Difference between total extract and tincture
7. Principle in paper chromatography
8. Enumerate the nutritional requirements of cultures.
9. Name the alkaloids of vinca
10. Enumerate radioactive isotopes used in investigation of biogenetic studies.

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(LD 4268) **AUGUST 2013** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAM

PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

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

I. Elaborate on: **(2X20=40)**

1. Explain with examples how the secondary metabolites of pharmaceutical importance are produced through tissue culture technique.
2. Discuss the industrial production and utilization of
   a. Senna glycosides
   b. Vinka alkaloids

II. Write notes on: **(8X5=40)**

1. Role of radio active isotopes in biogenetic studies
2. Preparation and standardization of churnas
3. Export potential of medicinal plants in India
4. Application of HPTLC
5. Composition of typical tissue culture medium for production of callus
6. Use of electrophoresis in phytochemical analysis
7. Production and utilization of citric acid
8. Plant growth regulators used in tissue culture

III. Short Answers on: **(10X2=20)**

1. Mention the spray reagents used to detect alkaloids
2. Use of the enzyme papain
3. Ash values
4. Define Asawas
5. Pharmaceutical application of Diosgenin
6. List out any basic metabolic pathways
7. Organogenesis
8. Autoradiography
9. Holistic medicines
10. Define Gutikas

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(LE 4268) **FEBRUARY 2014** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAM

PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

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

I. Elaborate on: (2X20=40)

1. Discuss in detail the various methods involved in extraction, purification and identification of phytoconstituents of crude drugs.
2. Give an account of the following:
   a. Plant growth regulators and their applications in production of secondary metabolites.
   b. Industrial production of menthol.

II. Write notes on: (8X5=40)

1. Biosynthesis of Penicillin.
2. Define natural allergens. How they are classified?
3. Industrial production and utilization of Senna glycosides.
4. Give the preparation and uses of Papain.
5. Anti-viral drugs.
6. Cell suspension culture and its application.
7. Composition of a typical tissue culture medium for the production of callus.
8. Preparation and uses of Tinctures.

III. Short Answers on: (10X2=20)

1. Holistic medicines.
2. Contact allergens.
3. Total Ash value.
4. Define Arista.
5. Give examples of plants having anti-HIV activity.
6. Autoradiography.
7. Write the source and uses of quinoline alkaloids.
8. Principle involved in HPTLC.
9. Define totipotency.
10. Write the structure and uses of morphine.

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[LF 4268] **AUGUST 2014** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. DEGREE EXAMINATION

Paper II - ADVANCED PHARMACOGNOSY

Q. P. Code: 564268

Time: Three Hours **Maximum: 100 Marks**

Answer All Questions

I. Essay Questions: **(2 x 20 = 40)**

1. a) Discuss about plant growth regulators and their application in production of secondary metabolites.

   b) Discuss in brief the utilization of radioactive isotopes in biogenetic studies.

2. Write a brief note on chromatographic techniques employed in phytochemical analysis.

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

1. Give the preparation and uses of papain.
2. Preparation and standardisation of Aristas.
3. Production and utilization of quinine.
4. Application of plant tissue culture.
5. Basic principles involved in Siddha system of medicine.
6. Natural allergens.
7. Stability tests for herbal extracts.
8. Importance of pharmacognosy in herbal drug industry.

III. Short Answers: **(10 x 2 = 20)**

1. Structure, biological source and use of quinine.
2. Biological source and use of solasodine.
3. What are Bhasmas?
4. Give examples for steroidal glycosides
5. Electrophoresis
6. Teratogenic plants
7. Use of Gossypol and Vidarabine.
8. Pharmacentical application of Diosgenin.
9. Totipotency
10. Name any two basic metabolic pathways in the formation of plant secondary metabolites.

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(LG 4268) **FEBRUARY 2015** **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAMINATION
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

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

I. Essay: **(2 x 20 = 40)**

1. a) Explain the biogenetic pathway leading to the formation of atropine.
   b) Industrial production of Diosgenin.
2. a) Write the basic principles involved in Ayurveda and Homeopathy.
   b) Types of Ayurvedic formulations and their standardisation.

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

1. Types of plant tissue culture
2. Tracer techniques
3. Modern methods of extraction
4. Enzyme immobilization techniques
5. Industrial production and pharmaceutical application of Vinca alkaloids
6. Herbal cosmetics
7. A brief account of plant based industries and utilization involved in work on medicinal and aromatic plants in India.
8. Application of adsorption chromatography in the identification of phytoconstituents.

III. Short answers: **(10 x 2 = 20)**

1. Starting materials for Industrial production of Citric acid
2. Source and uses of the enzyme papain
3. Pharmaceutical application of morphine and digoxin
4. Antiviral drugs of plant origin
5. Define extractive values
6. Single cell culture
7. Define fermentation technique
8. Competitive feeding
9. Importance of UV analysis of drugs
10. Give the source, constituents and uses of Solasodine

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[LH 4268] **AUGUST 2015** **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION

FOURTH YEAR

PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

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

Answer All Questions

I. Essay: **(2 x 20 = 40)**

1. Elaborate on the industrial production of
   a) Tropane alkaloids.
   b) Cardiac glycosides.
   c) Sennosides.
   d) Vinca alkaloids.
2. Give an account on WHO guidelines for the assessment of Herbal medicines.

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

1. Applications of Plant Tissue Culture.
2. Shikimic acid pathway.
3. Homeopathy.
4. Estimation of heavy metals in herbal preparations.
5. Enzyme immobilization.
6. Biogenesis of Atropine.
7. Streptokinase.
8. Callus culture.

III. Short answers: **(10 x 2 = 20)**

1. Differentiate Churnas and Bhasmas.
2. Pharmaceutical applications of Digoxin, Ergometrine.
3. Clonal propagation.
4. Importance of spectroscopic methods in herbal drug analysis.
5. Source, family and uses of Pectinase.
6. Give two examples for hallucinogenic and teratogenic plants.
7. Types of allergens.
8. Chemical structure and uses of menthol & citric acid.
9. Write about any 2 functions of Auxins in production of secondary metabolites
10. Name the different methods of feeding radio isotopes to plants in tracer technique.

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(LI 4268) FEBRUARY 2016 **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAMINATION
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

I. Essay: **(2 x 20 = 40)**

1. a) Industrial production and application of Quinoline alkaloids.
   b) Bio-synthesis and application of Digoxin.

2. a) Principle involved in Siddha system of medicine.
   b) Preparation and standardization of Bhasmas.

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

1. Nutritional requirements in Plant tissue culture.
2. Industrial production of Sennosides.
3. Biogenesis of Streptomycin.
4. Chromatographic techniques used in Plant drug analysis.
5. Role of Infra Red spectroscopy in evaluation of phytoconstituents.
6. Immobilisation technique in Plant tissue culture.
7. Note on Natural allergens.
8. Herbal Cosmetics.

III. Short answers: **(10 x 2 = 20)**

1. Define Plant tissue culture.
2. Chemical structure of Solasodine & Podophyllotoxin.
3. Electrophoresis.
4. Treatment of allergy.
5. Standardisation parameters for Lehya.
6. Preparation of Pectinase.
7. Biotransformation.
8. Define biogenesis.
9. What is Hairy root culture?
10. Mention the different types of allergenic extracts.

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(LJ 4268) AUGUST 2016 **Sub. Code: 4268**

FOURTH YEAR B.PHARM. EXAMINATION
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

I. Essay: **(2 x 20 = 40)**

1. a) Write the basic principles involved in Unani and Siddha.
   b) Types of Siddha formulations and their standardization.
2. Explain the utilization of Radio-active isotopes in investigation of bio-genetic studies.

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

1. Mevalonic acid pathway.
2. Protoplast culture.
3. Super critical fluid extraction.
4. Biogenesis of morphine.
5. Herbal shampoos preparation and standardization.
6. Penicillin biosynthesis.
7. Isolation and purification of papain and pepsin.
8. Principle and application of gas chromatography.

III. Short answers: **(10 x 2 = 20)**

1. Define arista and asava.
2. Uses of gossypol.
3. Define capillary electrophoresis.
4. Write significance of extractive values.
5. Single cell culture – any two applications.
6. Define Lehyas and Gutikas.
7. Two differences of HPLC and HPTLC
8. Two uses of Streptokinase.
9. Two applications of Ergometrine.
10. Give example for tinctures and herbal syrups.

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(LK 4268) FEBRUARY 2017 **Sub. Code: 4268**

B.PHARM. EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. Elaborate on modern methods of extraction of crude drugs and application of latest techniques in isolation, purification and identification of crude drugs.

2. Explain the principle, protocol and applications of Cell Suspension Culture with neat labelled diagrams.

II. Write notes on: **(8 x 5 = 40)**

1. Biosynthesis of Penicillin.
2. Plant constituents with anti HIV activity.
3. Stability testing of herbal products.
4. Siddha system of medicine.
5. Export potential of medicinal and aromatic plants of India.
6. Preparation of allergenic extracts.
7. HPTLC.
8. Papain.

III. Short answers on: **(10 x 2 = 20)**

1. Chemical structure and uses of Reserpine and Morphine.
2. Differentiate Asavas and Aristas.
3. Define allergy. Give example for allergens.
4. Define Totipotency.
5. Give example for sterilising agents used in Plant tissue culture.
6. Source and uses of Pepsin.
7. Name the different methods for enzyme immobilization.
8. Give the source and uses of Hypericin and Glycyrrhizin.
9. Autoradiography.
10. Structure of citric acid and menthol.

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(LL 4268) AUGUST 2017 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. a) Write the basic principles involved in supercritical fluid extraction and counter current extraction.
   b) Application of HPTLC in pharmacy.

2. a) Describe the principle involved in Gas chromatography and its applications in pharmacognosy.
   b) Write notes on basic principle involved in Ayurveda. Describe two preparation of ayurvedic herbal formulations and its standardization.

II. Write notes on: **(8 x 5 = 40)**

1. Isoprenoid biosynthesis.
2. Callus culture.
3. Biosynthesis of atropine.
4. Tri Carboxylic Acid cycle (TCA cycle).
5. Enzyme immobilization technique.
6. Streptokinase.
7. Principle of Homeopathy.
8. Plant growth regulators.

III. Short answers on: **(10 x 2 = 20)**

1. Define churna and bhasma.
2. Define single cell protein.
3. What is chromatography?
4. Mention two radioactive isotopes used in biogenetic studies.
5. What is papain?
6. Structure of menthol and citric acid.
7. Mention two plant constituents with Anti-HIV activity.
8. Mention botanical source and uses of Rasna and Tylophora.
9. Name two herbal tinctures.
10. Name two hallucinogenic plants.

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

(LM 4268) FEBRUARY 2018 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. Explain the preparation sand standardization of Churnas and Bhasmas.

2. Neat flow chart of super critical fluid extraction and Enfleurage extraction method.

II. Write notes on: **(8 x 5 = 40)**

1. Bio-transformation in plant tissue culture.
2. Estimation of heavy metals in herbal preparations.
3. Note on herbal syrups and creams with examples.
4. Biogenesis of Atropine.
5. Preparation and uses of: a) Pepsin b) Pectinase.
6. Industrial production of Solasodine.
7. Biosynthesis of Streptomycin.
8. Applications of plant tissue culture.

III. Short answers on: **(10 x 2 = 20)**

1. Define Ayurveda.
2. Give examples for allergenic extracts.
3. What is Protoplast culture?
4. What is Autoradiography?
5. Give examples of plants having anti HIV activity.
6. Chemical structure and uses of Menthol and citric acid.
7. Source, family and uses of Papain.
8. Define biogenesis.
9. What is hairy root culture?
10. Mention the treatment methods for allergy.

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

(LN 4268) AUGUST 2018 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. a) Describe the WHO guidelines for assessment of herbal medicines.
   b) Industrial production and applications of Quinoline alkaloids.

2. a) Explain the biosynthetic pathway for Morphine.
   b) Write brief on Callus culture technique and its application towards the production of secondary metabolites.

II. Write notes on: **(8 x 5 = 40)**

1. Principle and application of Paper and Thin layer Chromatography.
2. Stability test for herbal extracts.
3. Anti viral drugs from plant source.
4. Enzyme immobilization technique.
5. Export potential of medicinal and aromatic plants.
6. Natural allergens.
7. Biosynthesis of Penicillin.
8. Preparation and standardisation of Asavas and Aristas.

III. Short answers on: **(10 x 2 = 20)**

1. Applications of Ergometrine and Reserpine.
2. Biological source and uses of Gokhru and Pyrethrum.
3. List out any four basic metabolic pathways.
4. Organogenisis.
5. Anticancer drugs.
6. Any two applications of HPTLC.
7. Plant growth inhibitors.
8. Define Lehyas and Bhasmas.
9. Macro and micro nutrients.
10. Uses of streptokinase.

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

(LO 4268) FEBRUARY 2019 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. a) Types of ayurvedic formulations and their standardisation.
   b) Industrial production of diosgenin.

2. Elaborate on chromatographic techniques employed in phytochemical analysis.

II. Write notes on: **(8 x 5 = 40)**

1. Stability test for herbal extracts.
2. Give the method of preparation and uses of papain.
3. Applications of plant tissue culture.
4. Biosynthesis of penicillin.
5. Modern methods of extraction of crude drugs.
6. Biogenesis of morphine.
7. Plant growth regulators of its applications.
8. Industrial preparation and application of quinine.

III. Short answers on: **(10 x 2 = 20)**

1. Name the different methods of feeding radio isotopes to plants in tracer techniques.
2. Define capillary electrophoresis.
3. Two active constituents uses of fenugreek.
4. Uses of hypericin and glycyrrhizin.
5. Types of allergens.
6. Clonal propagation.
7. Write source and family of brahmi.
8. Preparation of herbal shampoo.
9. Name any two basic metabolic pathways in the formation of plant secondary metabolites.
10. Preparation of pectinase.

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

(LP 4268) AUGUST 2019 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. Discuss the utilization of radioactive isotopes in the investigation of biogenetic studies.

2. Describe the role of plant growth regulators for the production of secondary metabolites.

II. Write notes on: **(8 x 5 = 40)**

1. Electrophoresis.
2. Explain the method of isolation of papain.
3. Explain the industrial production and pharmaceutical application of solasodine.
4. Classification of allergens.
5. Herbal shampoo.
6. Explain the method of preparation of Lehyas.
7. Explain the Biosynthesis of Cephalosporin.
8. Biogenesis of Reserpine.

III. Short answers on: **(10 x 2 = 20)**

1. Chemical constituents and uses of Shankapuspi.
2. Pharmaceutical application of citric acid.
3. Write the common vernarulcar names and uses of Punarnava.
4. Explain Gutikas.
5. Application of hairy root cultures.
6. Biotransformation.
7. Uses of Inophyllum B.
8. Name the two marketed formulation of Coleus forskolii.
9. Principle involved in Unani system of medicine.
10. Application of HPTLC.

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

(LQ 4268) FEBRUARY 2020 **Sub. Code: 4268**

B.PHARM. DEGREE EXAMINATION
FOURTH YEAR
PAPER II – ADVANCED PHARMACOGNOSY

Q.P. Code: 564268

Time: Three hours **Maximum: 100 Marks**

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

1. a) Discuss in detail modern methods of extraction of the phytoconstituents.
   b) Explain the industrial production and pharmaceutical application of tropane alkaloids.

2. a) Discuss the method of isolation and purification of enzymes.
   b) Explain the biogenesis and pharmaceutical application of Digoxin.

II. Write notes on: **(8 x 5 = 40)**

1. Biosynthesis of streptomycin.
2. Antiviral drugs.
3. Biogenesis of Ergometrine.
4. Preparation and standardization of Bhasmas.
5. Preparation and standardization of herbal creams.
6. Write the common vernacular names, botanical sources, chemical constituents and marketed formulation of tylophora.
7. Preparation of allergenic extracts.
8. Export potential of Medicinal and Aromatic plants of India.

III. Short answers on: **(10 x 2 = 20)**

1. Give the uses of pancreatin.
2. Application of HPLC.
3. Define callus culture.
4. Give the uses of Podophyllotoxin.
5. Treatment of allergy.
6. Define churnas.
7. Give the uses of Vidarabine.
8. Organogenesis.
9. Name two marketed formulation of Guggul.
10. Write the botanical sources and uses of Brahmi.

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