SEPTEMBER 1991

405

FIRST M.Pharm. DEGREE EXAMINATION, SEPTEMBER 1991

Special Papers

Specialisation C — Pharmacognosy

Paper II — PHYTOCHEMISTRY AND BIOTECHNOLOGY

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

Answer any FOUR questions.

All questions carry equal marks.

1. How will you proceed for the phytochemical and biological screenings of medicinal plants ? Illustrate with suitable examples.

2. Mention with appropriate examples various chemical reactions which take place in plants for the metabolism of alkaloids and discuss the biosynthesis of tropane alkaloids.

3. Discuss the genetic factors which may be of help in improving the quality of drugs.

4. Discuss the various tissue culture techniques useful in biological sciences in general and pharmacognosy in particular.

5. Write short notes on any *two* only :

(*a*) Principles and application of fermentation technology.

(*b*) HPLC.

(*c*) Parallelism and Divergence.

(*d*) Role of UV in the characterization of Phyto-constituents.

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[405] **MARCH 1992**

FIRST M.Pharm. DEGREE EXAMINATION, MARCH 1992.

Pharmacognosy

Part III

PHYTOCHEMISTRY AND BIOTECHNOLOGY

Time : Three hours. Maximum : 100 marks.

Answer any FOUR questions only.

All questions carry equal marks.

1. Explain the different types of tissue culture and their importance in the study of medicinal constituents.

2. What is tracer technique ? Discuss the various methods of investigation biogenetic pathways in plants.

3. Describe giving suitable illustrations, methods you would employ for structural illucidation of isolated compounds with special reference to IR and MS.

4. Describe the various methods of drug improvement.

5. Possibly one of the expected question has not appeared here.

Frame a *suitable* question on any topic of your choice and answer the same. Please note your best is expected here.

NOVEMBER 1993

M. Pharm. DEGREE EXAMINATION

First Year

PR 459 Special Papers

Specialisation C — Pharmacognosy

PHYTOCHEMISTRY AND BIO-TECHNOLOGY

Time : Three hours. Maximum : 100 marks.

Answer any FOUR questions.
All questions carry equal marks.

1. Describe the biogenesis of Tropane alkaloids.

2. Describe the production of Lactic Acid by fermentation process.

3. Describe the modern instruments used in identification of secondary metabolites.

4. Describe the Growth Regulators used in Drug improvement.

5. Describe the biogenesis of cardiac glycosides

6. Write short notes on :

   (a) Tracer Techniques.

   (b) Plant breeding.

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[SB 312] **APRIL 1995**

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

Branch III — Pharmacognosy

PHYTOCHEMISTRY AND BIOTECHNOLOGY

Time : Three hours. Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe the biogenesis of Tropane alkaloids.

2. Describe the production of Dextran.

3. Describe the application of Modern Analytical Instruments in Screening Medicinal Plants.

4. Describe the Tissue Culture Methods.

5. What are growth regulators ? What are their roles in improving Drug Cultivation ?

6. Write notes on :

(*a*) Secondary Plant Metabolites.

(*b*) Biotransformation.

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[AK 313]

APRIL 1996

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

Branch III — Pharmacognosy

PHYTOCHEMISTRY AND BIOTECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Write an essay on the environmental factors that affect the cultivation of crude drugs.

2. Write the biogenetic pathway leading to the following constituents :

(a) Morphine.

(b) Quinine.

3. Write an essay on tissue culture with its history and development.

4. To what extent do IR and UV studies help to structurally elucidate a new compound you have isolated?

What further studies would you adopt to completely establish the structure of the same?

5. "Herbal cosmetics have tremendous potentiality in India". Justify this statement by giving examples of currently used herbal drugs in the market.

How can you standardise such preparations by giving general guidelines?

6. Write notes on :

(a) Induced secondary metabolites in cell cultures.

(b) Clonal Propagation.

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OCTOBER 1996

M.Pharm Degree Examination

PK 209 (New Regulations)

Branch III - Pharmacognosy
Paper III
PHYTOCHEMISTRY AND BIO-TECHNOLOGY

me: Three hours Max.marks:100

Answer any FOUR questions

All questions carry equal marks

1. Give an account of different methods of extraction employed for total alkaloids from plant material. Write a note on general chemical tests for alkaloids.

2. Describe the Shikimic acid pathway leading to the production of phytoconstituents of pharmaceutical significance.

3. What you understand by following terms associated with plant tissue culture.

   (a) Growth Index

   (b) Elicitors

   (c) Immobilization of cell systems

   (d) Cryopreservation

   (e) Callus cultures

OCTOBER 1996

Branch III - Pharmacognosy
Paper III
PHYTOCHEMISTRY AND BIO-TECHNOLOGY

PK 209

4. (a) Describe the nutritional requirements for establishment of suspension cultures.

   (b) Write a note on pharmaceutical applications of plant tissue culture.

5. Discuss the significance of the following in quality control of crude drugs and their constituents.

   (a) Quantitative microscopy

   (b) UV spectral analysis

6. Write notes on the followin:

   (a) Herbal cosmetics

   (b) Production and utility of yeast

   (c) Microbiological conversions of pharmaceutical significance

APRIL 1997

M.Pharm. DEGREE EXAMINATION

MP261 (New Regulations)

First Year

Branch III - Pharmacognosy

Paper IV - PHYTOCHEMISTRY AND BIO-TECHNOLOGY

Time: Three hours Max.marks:100

Answer any FOUR questions

All questions carry equal marks

1. Describe the production of Vitamin B_{12}.

2. Describe a drug developed through tissue culture with an increased percentage of secondary metabolites.

3. Describe the principle and technology involved in the production of herbal cosmetics.

4. Describe the importance of industrial fermentation and explain in detail a product developed by fermentation.

5. Describe the problems faced in standardising herbal formulations and suggest the methods to overcome the problems.

6. Write briefly on:

   (a) Yeast

   (b) Cell suspension culture.

OCTOBER 1997

MS 245

M.Pharm DEGREE EXAMINATION

(New Regulations)

First Year

Branch III - Pharmacognosy

Paper IV - PHYTOCHEMISTRY AND BIO-TECHNOLOGY

Time: Three hours Max.marks:100

Answer any FOUR questions

All questions carry equal marks

1. Describe the production of Dextrose from Starch.

2. Describe the importance of Tissue culture methods in propagating medicinal plants and in increasing secondary plant metabolites.

3. Describe the principles and technology involved in the production of herbal formulation.

4. Describe the production of Ergot alkaloids.

5. Explain the functions and usefulness of secondary plant metabolites.

6. Write notes on:

   (a) Pharmaceutical effluents

   (b) Modern methods of analysis of plant products.

[SV 277] APRIL 1998

M. Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch III — Pharmacognosy

Paper IV — PHYTOCHEMISTRY AND BIO-TECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. What is biogenesis? Discuss the pathways by which the plant synthesizes active principles. Discuss the biogenesis of an active principle you have studied.

2. Discuss the general methods of isolation, purification and characterisation of alkaloids from natural sources. Describe how atropine is produced commercially.

3. What is tissue culture? Discuss its commercial applications from the pharmacognostic angle.

Write notes on :

(a) Production of Ergot alkaloids by fermentation

(b) Yeast.

What are herbal formulations? How do they differ from the Ayurveda and Siddha formulations? Discuss the methods of quality control on modern lines.

[KB 277]

APRIL 2000

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch III — Pharmacognosy

Paper IV — PHYTOCHEMISTRY AND BIOTECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Mention the requirements for and describe the commercial production of vitamin B_{12}.

2. 'Plant constituents are microbiologically transformed into useful therapeutic agents'. Validate the above statement with suitable examples and techniques.

3. Give an account of different tissue culture techniques with their application in pharmacognosticangle.

4. Give an account of the following :

(a) Spectral Analysis in the characterization of phytoconstituents in crude drugs.

(b) YEAST.

5. What are Herbal Formulation? Discuss the Factors considered in the Formulation, Processing and Standardisation of Herbal Cosmetics.

6. Write notes on :

(a) Microchemical Analysis of Phytoconstituents in crude drugs.

(b) Parallelism and divergence.

(c) Role of secondary metabolites. (9 + 8 + 8)

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OCTOBER 2000

[KC 277]

FIRST M.Pharm. DEGREE EXAMINATION.

Branch III —Pharmacognosy

Paper IV — PHYTOCHEMISTRY AND BIOTECHNOLOGY

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. "Plant constituents are microbiologically transformed into useful Therapeutic agents". Validate the above statement with suitable examples and techniques.

2. Mention the requirements for, and describe the production of Vitamin B_{12}.

3. Give an account of different tissue culture techniques with their application.

4. What are Herbal Formulations? Discuss the factors considered for the formulation, processing and standardisation of Herbal cosmetics.

5. Give an account of the following :

(a) Spectral studies in the characterization of phyto constituents of crude drugs.

(b) Yeast.

6. Write notes on the following :

(a) Micro chemical analysis of phyto constituents in crude drugs.

(b) Parallelism and divergence.

(c) Role of secondary metabolites.
