

B. PHARM
(SEM-V) THEORY EXAMINATION 2019-20
PHARMACOGNOSY II – Theory

Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt all questions in brief.** **10 x 2 = 20**

- a. Enlist general chemical tests for terpenoids.
- b. Write specific identification test for caffeine.
- c. Enlist therapeutic and commercial applications of senna and vinca.
- d. Write applications of chromatography in the identification of crude drugs.
- e. What are applications of amino acid pathway?
- f. Enlist biosources of catechu and Asafoetida.
- g. Write composition and therapeutic uses of gentian and benzoin
- h. Write a short note on estimation of sennosides.
- i. Enlist various different species of senna.
- j. Write a short note on chemical tests for resins.

SECTION B

2. **Attempt any two parts of the following:** **2 x 10 = 20**

- a. Write about application of Chromatographic techniques in the isolation, purification and identification of crude drugs.
- b. Industrial production, estimation and utilization of caffeine and forskolin
- c. Isolation, Identification and Analysis of Menthol.

SECTION C

3. **Attempt any five parts of the following:** **5 x 7 = 35**

- a. Write a detailed note on Shikimic Acid Pathway.
- b. Discuss chemistry and commercial applications of Lignans.
- c. Describe isolation and Analysis of Curcuma.
- d. Describe Industrial production and estimation of Artemisinin.
- e. Application of HPTLC on the isolation and identification of crude drugs.
- f. Write composition, chemical class and therapeutic uses of pterocarpus.
- g. Discuss about isolation of Rutin and Citral.

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B PHARM
(SEM V) THEORY EXAMINATION 2020-21
PHARMACOGNOSY AND PHYTOCHEMISTRY -II

Time: 3 Hours

Total Marks: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

10 x 2 = 20

a.	General chemical tests for terpenoids.
b.	Specific identification test for caffeine.
c.	Therapeutic and commercial applications of senna and vinca.
d.	Applications of chromatography in the identification of crude drugs.
e.	Applications of amino acid pathway.
f.	Biosources of catechu and Asafoetida.
g.	Composition and therapeutic uses of gentian and benzoin
h.	Estimation of sennosides.
i.	Different species of senna.
j.	Chemical tests for resins.

SECTION B

2. Attempt any twoparts of the following:

2 x 10 = 20

a.	Application of Chromatographic techniques in the isolation, purification and identification of crude drugs.
b.	Industrial production, estimation and utilization of caffeine and forskolin
c.	Isolation, Identification and Analysis of Menthol.

SECTION C

3. Attempt any fiveparts of the following:

7 x 5 = 35

a.	Shikimic Acid Pathway.
b.	Pharmacognostical study of Lignans.
c.	Isolation and Analysis of Curcuma.
d.	Industrial production and estimation of Artinisinin..
e.	Application of HPTLC on the isolation and identification of crude drugs.
f.	Composition, chemical class and therapeutic uses of pterocarpus.
g.	Isolation of Rutin and Citral.



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B PHARM
(SEM V) THEORY EXAMINATION 2021-22
PHARMACOGNOSY AND PHYTOCHEMISTRY-II

Time: 3 Hours**Total Marks: 75****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Define chromatography with suitable example.
b.	Discriminate primary and secondary metabolites with example.
c.	Differentiate TLC and HPTLC.
d.	Write chemical test used to identify Cardiac glycosides.
e.	Differentiate hydrolysable and condensed tannins with example.
f.	Write the bio-sources and medicinal uses of Benzoin and Clove.
g.	Enlist various modern methods used for extraction.
h.	Define tannin. Write chemical test of tannins.
i.	Write biological source and chemical constituents of Tea and Taxol.
j.	Define radiotracer technique. Enlist various detectors used in tracer techniques.

SECTION B**2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Explain in detail about shikimic acid biosynthetic pathway.
b.	Describe the application of HPLC techniques used for standardization of herbal drugs.
c.	Illustrate industrial production, estimation and utilization of Forskolin and Caffeine.

SECTION C**3. Attempt any five parts of the following:****7 x 5 = 35**

a.	Explain isolation of Atropine and Podophyllotoxin.
b.	Discuss bio-sources, therapeutic uses and commercial applications of Opium and Digitalis.
c.	Write about isolation, identification and analysis of Quinine.
d.	Describe about the industrial production and utilization of Sennosides and Digoxin.
e.	Write short note on Mevalonic Acid pathway.
f.	Describe bio-sources, compositions, chemistry and therapeutic uses of Licorice and Rauwolfia.
g.	Describe in detail about application of spectroscopic techniques used for quality control studies of herbal drugs.

B PHARM
(SEM V) THEORY EXAMINATION 2022-23
PHARMACOGNOSY-II

Time: 3Hours**Total Marks: 75****Note:** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief. 2 x 10 = 20**

- (a) Differentiate between primary and secondary metabolites with suitable examples.
- (b) Give biosynthetic flow of production of various primary and secondary metabolites.
- (c) Discuss chemical constituents and uses of asafetida.
- (d) What is the therapeutic significance of ginger?
- (e) Explain Stas-otto method for extraction.
- (f) Discuss physico-chemical properties of resins.
- (g) What is the biological source and uses of artemisinin?
- (h) Give chemical identification test of digoxin.
- (i) Explain decoction process of extraction.
- (j) What do you mean by theoretical plates in chromatography?

SECTION B**2. Attempt any two parts of the following: 10 x 2 = 20**

- (a) Discuss shikimic acid pathway with its significance in biogenesis.
- (b) Discuss complete pharmacognosy of opium and digitalis.
- (c) Elaborate various chromatographic techniques with their significance. What is herbal fingerprinting?

SECTION C**3. Attempt any five parts of the following: 7 x 5 = 35**

- (a) Write a note on the application of radioactivity in the investigation of biogenetic pathway.
- (b) Discuss biological source, chemical constituents and uses of belladonna. Give extraction of atropine.
- (c) Write a note on application of various spectroscopic techniques in identification of crude drugs.
- (d) Explore industrial production, estimation and utilization of Sennosides.
- (e) Discuss biological source, chemical constituents, uses of ruta, and citral extraction.
- (f) Discuss industrial production, estimation and utilization of Podophyllotoxin.
- (g) Discuss biological source, chemical constituents, uses of Rauwolfia, and Reserpine extraction.



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BPHARM
(SEM V) THEORY EXAMINATION 2023-24
PHARMACOGNOSY II – THEORY**TIME: 3 HRS****M.MARKS: 75****Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****10 x 2 = 20**

a.	Explain the significance of acetate pathways in the plants.
b.	Mention the role of mutant strains in Biogenetic investigations.
c.	Elaborate the chemical constituents and uses of Opium.
d.	Discuss the medicinal uses of Clove and Aloe.
e.	Write the biological source and uses of Artemisinin.
f.	Explain Stas-otto method for extraction
g.	Outline the chemical test used to identify Cardiac glycosides.
h.	Explain the utilization of Diosgenin.
i.	Differentiate between Infusion and Decoction.
j.	Mention the applications of IR spectroscopy in characterization of phytoconstituents.

SECTION B**2. Attempt any two parts of the following:****2 x 10 = 20**

a.	Explain in detail about Shikimic acid biosynthetic pathway.
b.	Discuss the biological source, chemical class, chemical constituents, identification tests, and therapeutic uses of Asafoetida and Digitalis.
c.	Define Extraction. Elaborate the modern methods of extraction in detail.

SECTION C**3. Attempt any five parts of the following:****5 x 7 = 35**

a.	Describe Radiotracer technique. Enlist a few examples of radioactive isotopes that can be used in biogenetic studies. Discuss their applications in biogenetic studies.
b.	Describe the properties of Alkaloids. Illustrate the pharmacognosy of Rauwolfia.
c.	Explore industrial production, estimation and utilization of Sennosides.
d.	Mention physio-chemical properties of Resins. Discuss the isolation of Podophyllotoxin.
e.	Discuss the source, utilization and isolation method of Caffeine.
f.	Explain the role of TLC and HPTLC in isolation and purification of phytoconstituents.
g.	Describe isolation method for Atropine and Citral.



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BPHARM
(SEM V) THEORY EXAMINATION 2024-25
PHARMACOGNOSY II – THEORY

TIME: 3 HRS**M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

1. SECTION A

Attempt all questions in brief.

10 x 2 = 20

a.	Give biosynthetic flow of production of various primary and secondary metabolites.
b.	Explain Competitive feeding in tracer techniques.
c.	Define Tannins. Indicate the commercial applications of Tannins.
d.	Name any two alkaloid containing drugs and give their uses.
e.	Explain the utilization of Diosgenin.
f.	Write an identification test for Quinine.
g.	Write the biological source and uses of Artemisinin.
h.	Write biological source and utilization of Curcumin.
i.	Illustrate the main principle of electrophoresis.
j.	Outline the factors to be considered for selecting solvent for extraction of crude drugs.

SECTION B

2. Attempt any two parts of the following:

2 x 10 = 20

a.	Illustrate in detail about shikimic acid pathway and its significance.
b.	Discuss complete pharmacognosy of Clove and Aloe.
c.	Define Extraction. Elaborate the modern methods of extraction in detail.

SECTION C

3. Attempt any five parts of the following:

5 x 7 = 35

a.	What is the Tracer technique? Discuss role of radioactive isotopes in biogenetic study.
b.	Describe isolation method for Atropine and Curat.
c.	Mention physico-chemical properties of Resins. Discuss the isolation of Podophyllotoxin.
d.	Outline the applications of chromatographic techniques in identification of crude drugs.
e.	Describe about the industrial production and utilization of Sennosides and Digoxin.
f.	Explore the biosources, chemical class, chemical constituents and therapeutic uses of Benzoin and Guggul.
g.	Discuss the source, utilization and isolation method of Caffeine.

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BPHARM

(SEM. V) THEORY EXAMINATION 2025-26

PHARMACOGNOSY II – THEORY

TIME: 3 HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

2x 10 = 20

- (a) Define secondary metabolites with examples.
- (b) Write any two differences between Shikimic acid pathway and Acetate pathway.
- (c) What are radioactive isotopes? Mention their role in biogenetic studies.
- (d) Define alkaloids with one example.
- (e) Write any two sources of flavonoids.
- (f) Define tannins and give one biological role.
- (g) What are glycosides? Give one example.
- (h) Define chromatography.
- (i) Write the principle of electrophoresis.
- (j) What is spectroscopy?

SECTION B

2. Attempt any *two* of the following:

2 x 10 = 20

- (a) Explain industrial production, estimation and therapeutic uses of any **TWO** of the following: Digoxin, Atropine, Vincristine, Taxol
- (b) Discuss any **TWO** modern methods of extraction and advanced techniques (Chromatography, Spectroscopy, Electrophoresis) used in phytochemistry for isolation and identification of crude drugs.
- (c) Explain the introduction, composition and classification of alkaloids with suitable examples and discuss their therapeutic uses.

SECTION C

3. Attempt any *five* part of the following:

7 x 5 = 35

- (a) Explain Shikimic acid pathway in detail with its importance in formation of secondary metabolites.
- (b) Write a detailed note on volatile oils: classification, extraction methods and therapeutic uses.
- (c) Classify glycosides based on chemical nature with suitable examples.
- (d) Explain lignans and their pharmaceutical importance.
- (e) Describe methods used for quantitative estimation of phytoconstituents.
- (f) Write a note on saponins including classification and biological activities.
- (g) Explain terpenoids with classification and examples.