PAPER ID-310200

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Subject Code: BP504T

Roll No:

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 *two* parts 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 *five* parts 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 Artimisinin..
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.

Subject Code: BP504T

PAPER ID-410593

Roll No: | | | | | | | | | | | | | |

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.

Printed Pages:01 **Sub Code: BP-504T**

Paper Id: 231208 **Roll No.** | | | | | | | | | | |

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

Time: 3 Hours ***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 asafoetida.

(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.

Printed Pages:01 **Sub Code: BP-504T**

Paper Id: 231208 **Roll No.** | | | | | | | | | | |

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

Time: 3 Hours ***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 asafoetida.

(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.

PAPER ID-310837

Roll No:

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.

PAPER ID-410645

Subject Code: BP504T

Roll No: | | | | | | | | | | | | | |

BPHARM

(SEM V) THEORY EXAMINATION 2023-24

PHARMACOGNOSY AND PHYTOCHEMISTRY

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.	Mention the biological source and identification tests for Digoxin.
b.	Outline the importance of acetate pathways in plants.
c.	Define primary and secondary metabolites with suitable examples.
d.	Discuss the medicinal uses of Clove and Aloe.
e.	Write the biological source and medicinal uses of Artemisinin.
f.	Mention any two chemical tests used for the identification of Alkaloids.
g.	Name any two resin containing drugs and give their uses.
h.	Write the biological source and therapeutic uses of Quinine.
i.	Differentiate between Infusion and Decoction.
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.	Schematically represent the biosynthesis of shikimic acid.
b.	Discuss the biological source, chemical class, chemical constituents, identification tests and therapeutic uses of Liquor ice and Rauwolfia.
c.	Discuss Continuous Hot percolation method and Microwave assisted extraction method in detail.

SECTION C

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

a.	What are terpenoids? Write the isolation and analysis of menthol.
b.	Discuss the role of radioactive isotopes in biogenetic investigations.
c.	Describe the isolation and identification of Caffeine.
d.	Discuss the pharmacognosy of Fennel and Senna in detail.
e.	Describe the isolation and analysis of Podophyllotoxin.
f.	Write about the industrial production and utilization of Forskolin.
g.	Outline the applications of chromatographic techniques in identification of crude drugs.

PAPER ID-310502

Roll No: | | | | | | | | | | | | | |

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.

SECTION A

1. 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 Citral.
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.

Paper ID : 250452

Roll No: | | | | | | | | | | | | | |

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.

SECTION A

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

a.	Distinguish between the acetate-mevalonate (MVA) and methylerythritol phosphate (MEP) pathways in the biosynthesis of terpenoids.
b.	Describe the function of the amino acid pathway in the production of tropane alkaloids, including one example
c.	Clarify the reason that lignans derived from Podophyllum are categorized as aryltetralin lignans and their importance in cancer treatment.
d.	In what way does the chemical makeup of menthol (Mentha) lead to its cooling effect?
e.	How do glycosides of anthraquinone (Senna, Aloes) stimulate peristalsis, and what is their aglycone form?
f.	In what way does the existence of α,β-unsaturated aldehyde in citral affect its UV-spectral examination?
g.	Explain the essential pH modification needed for extracting atropine from Atropa belladonna and the biochemical reasoning behind it
h.	What analytical method is favored for quantifying Digoxin in digitalis leaves?
i.	What are the differences between HPLC and TLC in the analysis of phytochemicals?
j.	Explain the industrial process used for extracting caffeine from coffee beans.

SECTION B

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

a.	I.	Clarify the function of the Shikimic acid pathway in the production of aromatic amino acids and its importance in the development of phenylpropanoids.**(5M)**
	II.	What are the differences in chemical composition and therapeutic uses between volatile oils derived from Mentha and Cinnamon? **(5M)**
b.	I.	Examine the structural characteristics and therapeutic significance of Artemisinin derived from Artemisia annua. How does its anticancer activity compare to Taxol from Taxus?**(5M)**
	II.	Analyze the pharmacological effects of Quinine and Caffeine, with an emphasis on their structural-activity relationship**(5M)**
c.	I.	Elaborate on the sequential industrial methods to obtain Diosgenin from Dioscorea species, focusing on solvent extraction and hydrolysis.**(6M)**
	II.	In what ways does electrophoresis contribute to the quality control of compounds derived from plants? **(4M)**

Paper ID : 250452

Roll No: | | | | | | | | | | | | | |

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

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

SECTION C

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

a.	Examine the importance of radioactive isotopes (e.g., C^{14}, H^{3}) in tracking biosynthetic pathways in plants. Provide an example demonstrating how isotopic labeling clarified the mevalonate and non-mevalonate pathways in terpenoid biosynthesis.
b.	Discuss the significance of Dioscorea and Liquorice in contemporary medicine. Emphasize their main chemical components, medicinal applications, and market uses in the pharmaceutical sector.
c.	Explain the chemical composition, medicinal benefits, and industrial uses of Guggul resin.
d.	Scrutinize the structural characteristics, therapeutic effects, and market importance of Vinca and Rauwolfia alkaloids
e.	Outline the chemical assays and TLC analysis for the identification of glycyrrhetinic acid. In what way does acid hydrolysis assist in characterizing glycyrrhizin?
f.	Skeleton the fermentation-driven industrial synthesis of Forskolin, its spectrophotometric measurement, and its therapeutic applications in cardiovascular diseases.
g.	Explain the operational principle of Gas Chromatography-Mass Spectrometry (GC-MS) in the analysis of phytochemicals. Why is it sometimes essential to perform derivatization prior to GC-MS analysis? https://www.aktuonline.com