

PHB Education

**Government Exam and D. Pharm Exit Exam Preparation
Questions Bank**

Subject: Pharmacognosy

Chapter -4 : Distribution, Identification tests, pharmaceutical applications, isolation, the therapeutic activity of Crude drugs

Topic: Pharmacognosy – Alkaloids

1–10. Distribution of Alkaloids

1. Alkaloids are _____ metabolites of plants.

- A) Primary
- B) Secondary
- C) Essential
- D) Carbohydrate

Answer: B) Secondary

2. Alkaloids are mainly found in which part of plants?

- A) Only roots
- B) Only leaves
- C) All parts of the plant
- D) Only seeds

Answer: C) All parts of the plant

3. Alkaloids are most abundant in which plant families?

- A) Solanaceae and Papaveraceae
- B) Poaceae and Liliaceae
- C) Brassicaceae and Malvaceae
- D) Rosaceae and Cucurbitaceae

Answer: A) Solanaceae and Papaveraceae

4. The alkaloid caffeine is found in:

- A) *Coffea arabica*
- B) *Atropa belladonna*
- C) *Papaver somniferum*
- D) *Rauwolfia serpentina*

Answer: A) *Coffea arabica*

5. Morphine is obtained from:

- A) Opium poppy
- B) Cinchona bark
- C) Datura leaves
- D) Tobacco

Answer: A) Opium poppy

6. Quinine is obtained from the bark of:

- A) *Cinchona officinalis*
- B) *Rauwolfia serpentina*
- C) *Ephedra sinica*
- D) *Datura stramonium*

Answer: A) *Cinchona officinalis*

7. Reserpine is obtained from:

- A) *Rauwolfia serpentina*
- B) *Atropa belladonna*
- C) *Cinchona officinalis*
- D) *Papaver somniferum*

Answer: A) *Rauwolfia serpentina*

8. Nicotine is an alkaloid found in:

- A) *Nicotiana tabacum*
- B) *Coffea arabica*
- C) *Datura stramonium*
- D) *Atropa belladonna*

Answer: A) *Nicotiana tabacum*

9. The alkaloid atropine is found in:

- A) *Atropa belladonna*
- B) *Papaver somniferum*
- C) *Coffea arabica*
- D) *Cinchona officinalis*

Answer: A) *Atropa belladonna*

10. The alkaloid ephedrine is found in:

- A) *Ephedra sinica*
- B) *Rauwolfia serpentina*
- C) *Digitalis purpurea*
- D) *Cinchona officinalis*

Answer: A) *Ephedra sinica*

□ **11–20. General Characteristics and Classification**

11. Most alkaloids are _____ in reaction.

- A) Acidic
- B) Neutral
- C) Basic

D) Amphoteric

Answer: C) Basic

12. The basicity of alkaloids is due to the presence of _____.

A) Oxygen

B) Nitrogen

C) Sulphur

D) Carbon

Answer: B) Nitrogen

13. The term “alkaloid” was first used by:

A) Meissner

B) Pelletier

C) Sertürner

D) Runge

Answer: A) Meissner

14. Alkaloids are classified chemically based on:

A) Carbon skeleton

B) Nitrogen atom position

C) Plant origin

D) Both A and B

Answer: D) Both A and B

15. Non-nitrogenous alkaloid-like compounds are called:

A) Protoalkaloids

B) Pseudoalkaloids

C) True alkaloids

D) Isoalkaloids

Answer: B) Pseudoalkaloids

16. Alkaloids are generally insoluble in _____.

A) Water

B) Organic solvents

C) Alcohol

D) Ether

Answer: A) Water

17. Alkaloids form salts with _____ acids.

A) Mineral

B) Weak organic

C) Fatty

D) None

Answer: A) Mineral

18. The characteristic property of alkaloids is their _____ taste.

A) Sweet

B) Bitter

C) Salty

D) Sour

Answer: B) Bitter

19. Alkaloids are usually _____ in nature and crystalline solids.

A) Colorless

B) Colored

C) Volatile

D) Non-crystalline

Answer: A) Colorless

20. Quaternary alkaloids are _____ soluble in water than free bases.

A) More

B) Less

C) Not

D) Equally

Answer: A) More

□ **21–30. Identification Tests of Alkaloids**

21. Dragendorff's reagent gives an _____ precipitate with alkaloids.

A) Orange

B) Red

C) White

D) Blue

Answer: A) Orange

22. Mayer's reagent contains _____.

A) Potassium mercuric iodide

B) Bismuth nitrate

C) Copper sulphate

D) Picric acid

Answer: A) Potassium mercuric iodide

23. Wagner's reagent contains _____.

A) Iodine in potassium iodide solution

B) Picric acid

C) Phosphotungstic acid

D) Sodium hydroxide

Answer: A) Iodine in potassium iodide solution

24. Hager's reagent contains _____.

A) Picric acid

B) Iodine

C) Mercury

D) Phosphomolybdic acid

Answer: A) Picric acid

25. Alkaloids react with tannic acid to form _____.

A) Insoluble tannates

B) Soluble salts

C) Esters

D) Oils

Answer: A) Insoluble tannates

26. Alkaloids turn moist red litmus paper to _____.

A) Blue

B) Red

C) Green

D) Yellow

Answer: A) Blue

27. The presence of alkaloids can be detected by precipitation with _____ reagents.

A) Alkaloidal

B) Metallic

C) Organic

D) Enzymatic

Answer: A) Alkaloidal

28. The most common color reaction for alkaloids is due to their _____ nature.

A) Basic

B) Acidic

C) Amphoteric

D) Neutral

Answer: A) Basic

29. Alkaloids form salts with acids and become _____ soluble.

A) Water

B) Alcohol

C) Ether

D) Benzene

Answer: A) Water

30. The alkaloid test that produces yellow precipitate is:

A) Hager's reagent

B) Dragendorff's reagent

C) Mayer's reagent

D) Wagner's reagent

Answer: A) Hager's reagent

□ **31–40. Isolation of Alkaloids**

31. Alkaloids are usually extracted from plants using _____ solvents.

A) Organic

B) Aqueous

C) Alcoholic

D) Acidic

Answer: A) Organic

32. During extraction, alkaloids are first converted to their _____ salts.

A) Water-soluble

B) Oil-soluble

C) Neutral

D) Crystalline

Answer: A) Water-soluble

33. The most common solvent used for extraction of alkaloids is _____.

A) Alcohol

B) Ether

C) Benzene

D) Water

Answer: A) Alcohol

34. After extraction, alkaloids are regenerated by adding _____.

A) Alkali

B) Acid

C) Salt

D) Ether

Answer: A) Alkali

35. The purification of alkaloids is done by _____.

A) Recrystallization

B) Fermentation

C) Evaporation

D) Boiling

Answer: A) Recrystallization

36. In the extraction process, acidified water helps to extract alkaloids as _____.

A) Soluble salts

B) Insoluble bases

C) Esters

D) Alcohols

Answer: A) Soluble salts

37. The most widely used acid in alkaloid extraction is _____ acid.

A) Hydrochloric

B) Nitric

C) Sulphuric

D) Tannic

Answer: A) Hydrochloric

38. The free base form of an alkaloid is usually _____ soluble in water.

A) Poorly

B) Highly

C) Equally

D) Completely

Answer: A) Poorly

39. Extraction of alkaloids from plant material is facilitated by _____.

A) Maceration or percolation

B) Boiling

C) Heating in open air

D) Freezing

Answer: A) Maceration or percolation

40. The presence of _____ affects the yield of alkaloids in plants.

A) Climate and soil

B) Water

C) Sunlight only

D) Wind

Answer: A) Climate and soil

□ **41–50. Pharmaceutical Applications & Therapeutic Activity**

41. Morphine is used as a potent _____.

A) Analgesic

- B) Antacid
- C) Antiseptic
- D) Diuretic

Answer: A) Analgesic

42. Quinine is used as an _____.

- A) Antimalarial
- B) Antifungal
- C) Diuretic
- D) Sedative

Answer: A) Antimalarial

43. Atropine is used as a _____.

- A) Mydriatic and antispasmodic
- B) Analgesic
- C) Antiseptic
- D) Antacid

Answer: A) Mydriatic and antispasmodic

44. Reserpine acts as an _____.

- A) Antihypertensive and tranquilizer
- B) Antipyretic
- C) Antiseptic
- D) Laxative

Answer: A) Antihypertensive and tranquilizer

45. Ephedrine is used as a _____.

- A) Bronchodilator and nasal decongestant
- B) Sedative
- C) Laxative
- D) Antacid

Answer: A) Bronchodilator and nasal decongestant

46. Caffeine acts as a _____ stimulant.

- A) Central nervous system
- B) Cardiac depressant
- C) Respiratory depressant
- D) Digestive enzyme

Answer: A) Central nervous system

47. Nicotine acts as a _____ stimulant.

- A) Peripheral nervous system
- B) CNS

C) Respiratory

D) Muscular

Answer: A) Peripheral nervous system

48. Ergot alkaloids are used as _____ agents.

A) Oxytocic and vasoconstrictor

B) Diuretic

C) Antiseptic

D) Antacid

Answer: A) Oxytocic and vasoconstrictor

49. Pilocarpine is used in the treatment of _____.

A) Glaucoma

B) Asthma

C) Fever

D) Hypertension

Answer: A) Glaucoma

50. Vincristine and Vinblastine are used as _____ agents.

A) Anticancer

B) Analgesic

C) Sedative

D) Antacid

Answer: A) Anticancer



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