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# GPAT

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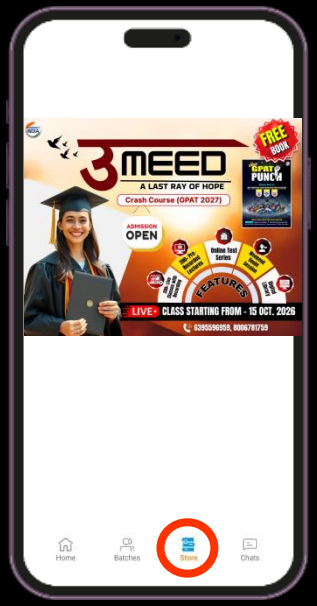


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# DAILY UPDATES

# जुड़िए PHARMACY INDIA

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## WHATSAPP & TELEGRAM SE JUDNE KE LIYE ICONS PAR CLICK KARE

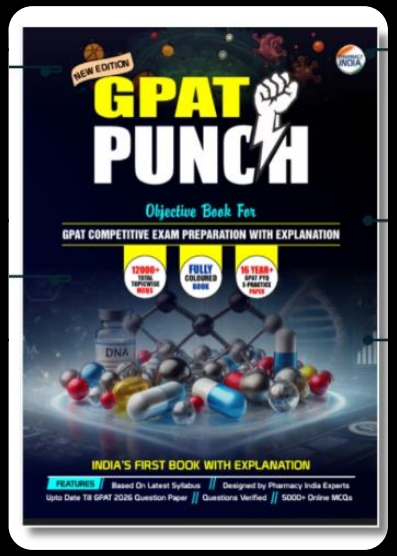

01. **Lycopene, an antioxidant, is classified as: [GPAT 2026]**

(a) Hydroxycinnamates

(b) Flavonoids

(c) Carotenes

(d) Xanthophylls



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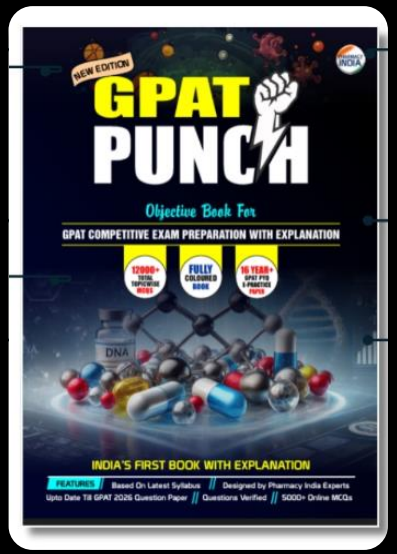


## Explanation:

Lycopene belongs to the carotenoid group and specifically to carotenes. Carotenes are hydrocarbon carotenoids containing only carbon and hydrogen. Lycopene is a red-coloured natural pigment with strong antioxidant activity. It is commonly present in tomatoes and other red-coloured fruits. Xanthophylls differ from carotenes because they contain oxygen in their structure.

**02.** Match the following drugs with their respective families: [GPAT 2025]

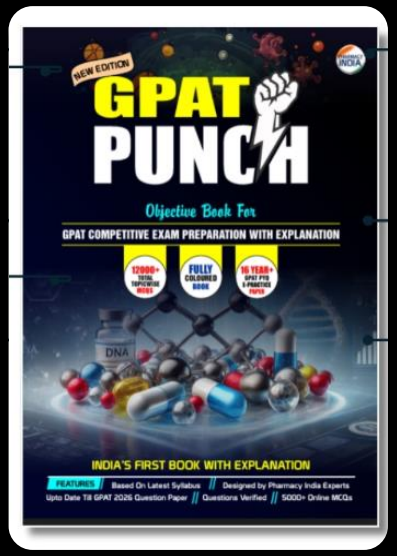
| DRUG | FAMILY |
|---|---|
| A. Snake Root | i. Compositae |
| B. Artemisia | ii. Rosaceae |
| C. Bitter Almond | iii. Apocynaceae |
| D. Myrrh | iv. Burseraceae |

(a) A-iv, B-ii, C-iii, D-i

(b) A-iv, B-iii, C-ii, D-i

(c) A-i, B-iv, C-ii, D-iii

(d) A-iii, B-i, C-ii, D-iv



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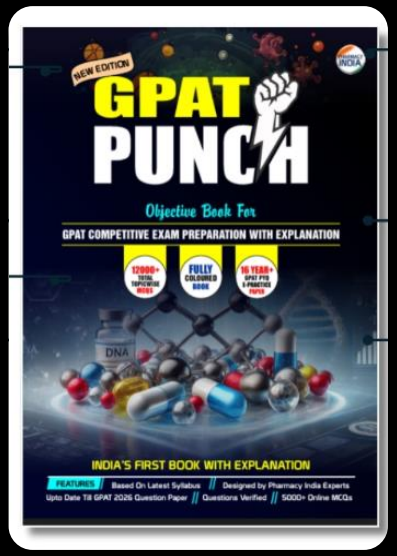


## Explanation:

Snake Root belongs to the family Apocynaceae and Artemisia belongs to Compositae. Bitter Almond is a member of the family Rosaceae. Myrrh is obtained from plants belonging to Burseraceae. Botanical family identification is important for taxonomical classification of crude drugs.

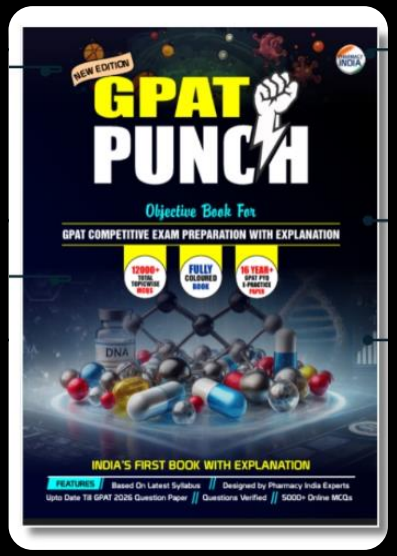
03. **Ayurvedic fermented preparations include: [GPAT 2023]**

(a) Churnas

(b) Tailas

(c) Bhasma

(d) Aristas and Asavas



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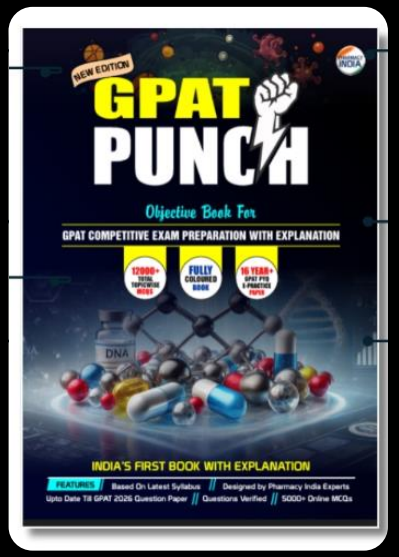


## Explanation:

Aristas and Asavas are classical fermented Ayurvedic preparations. Natural fermentation during their preparation produces a certain amount of alcohol. This alcohol helps in extraction and preservation of medicinal constituents. Churnas are powdered preparations, while Tailas are medicated oils. Bhasmas are prepared mainly through processing and calcination.

**04.** Match the Ayurvedic formulations with their correct process or property: [GPAT 2023]

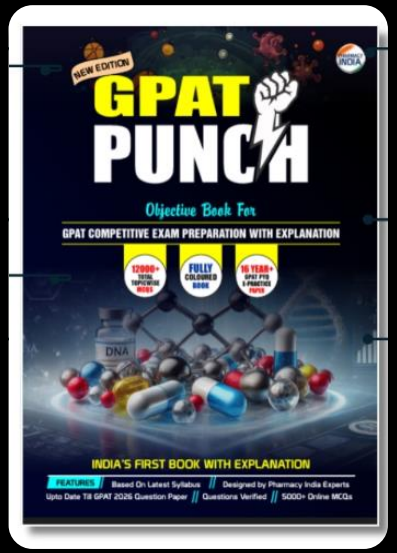
| FORMULATION | PROCESS / PROPERTY |
|---|---|
| I. Churna | P. Semisolid |
| II. Lehya | Q. Calcination |
| III. Bhasma | R. Alcohol generation |
| IV. Arista | S. Dry powder |

(a) I-P, II-R, III-S, IV-Q

(b) I-S, II-P, III-Q, IV-R

(c) I-R, II-S, III-P, IV-Q

(d) I-Q, II-R, III-S, IV-P



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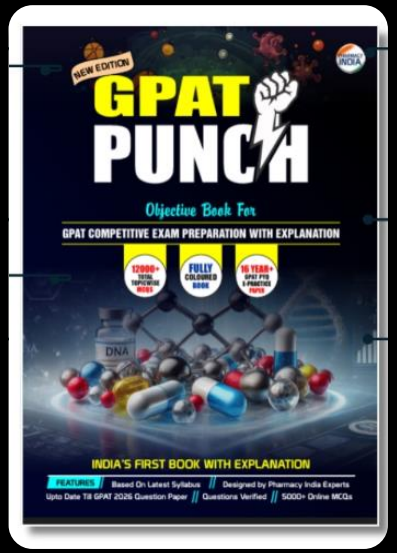


## Explanation:

Churna is prepared as a dry powdered formulation. Lehya has a semisolid consistency suitable for oral administration. Bhasma preparation involves calcination as an important processing step. Arista undergoes fermentation with generation of alcohol.

05. **Which classification of herbal drugs gives a better understanding of the biosynthetic pathway in a drug?**

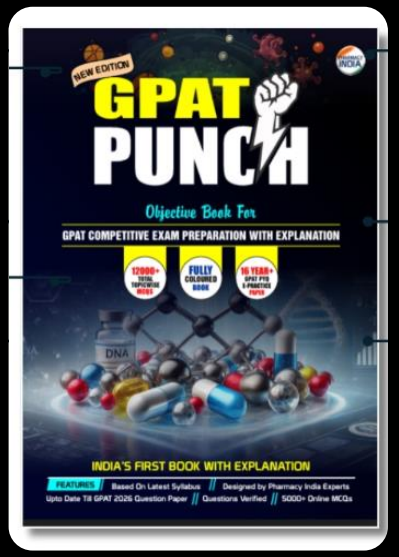
**[GPAT 2021]**

(a) Botanical classification

(b) Chemotaxonomical classification

(c) Taxonomical classification

(d) Chemical classification



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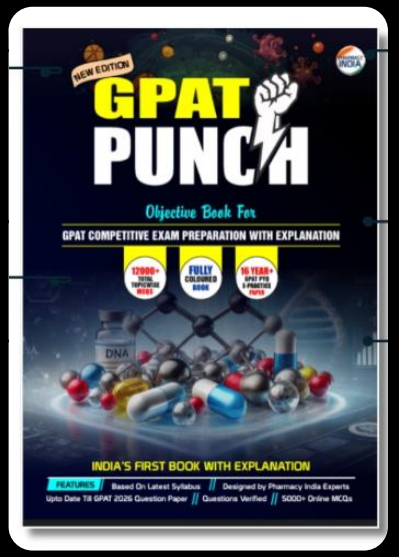


## Explanation:

Chemotaxonomy combines chemical characteristics with taxonomic relationships of plants. Closely related plants often possess similar groups of secondary metabolites. This relationship provides information about formation and distribution of chemical constituents. It is useful for understanding possible biosynthetic relationships among medicinal plants.

06. **Which one of the following is an unorganized drug?**

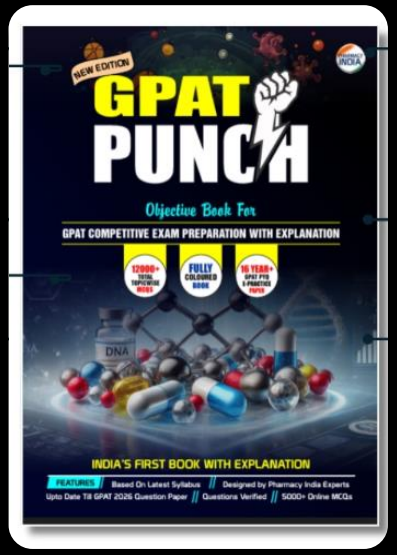
**[GPAT 2021]**

(a) Rauwolfia Root

(b) Acacia Gum

(c) Senna Leaves

(d) Cinchona Bark



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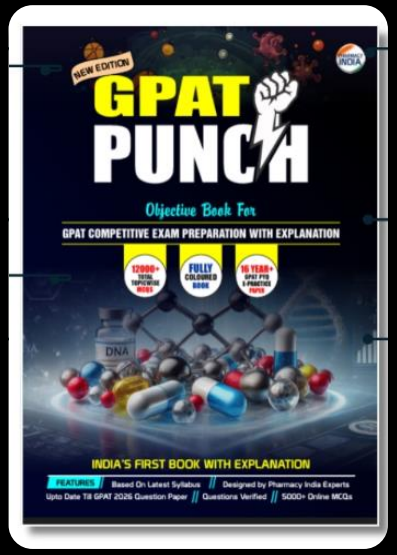


## Explanation:

Acacia occurs as a dried gummy exudate rather than as an intact plant organ. It therefore lacks the definite cellular organization seen in roots, leaves and barks. Rauwolfia root retains root structure and Senna retains leaf structure. Cinchona bark also possesses recognizable tissues and cellular organization. Acacia Gum is consequently classified as an unorganized crude drug.

**07.** **Plants that are not differentiated into root, stem and leaves are:**

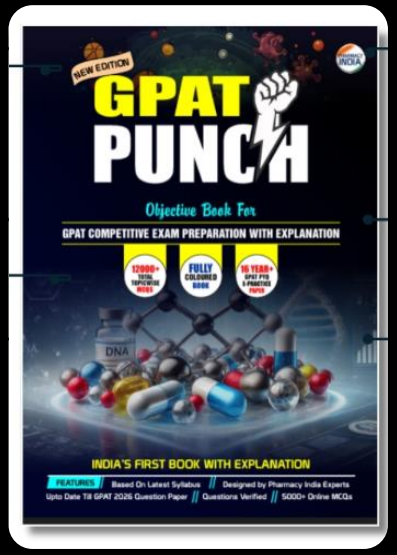
**[GPAT 2020]**

(a) Plantaginales

(b) Principes

(c) Thallophytes

(d) Bromeliales

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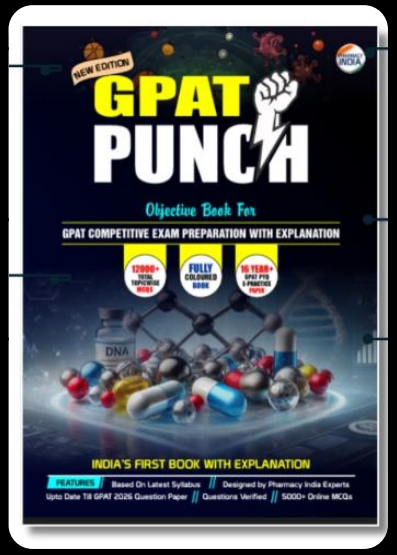



## Explanation:

Thallophytes possess a simple vegetative body known as a thallus. Their body does not show differentiation into true roots, stems and leaves. This primitive organization is an important characteristic of the group. Algae are commonly included among organisms showing thalloid organization.

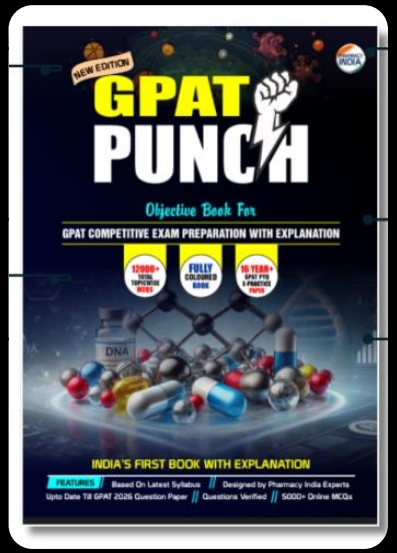
**08.** All members of this order are trees or shrubs, mostly evergreen with needle-like leaves, and sporophylls usually occur in cones. Resin ducts occur in all parts. Identify the order. [GPAT 2019]

(a) Cycadales

(b) Ginkgoales

(c) Taxales

(d) Coniferae



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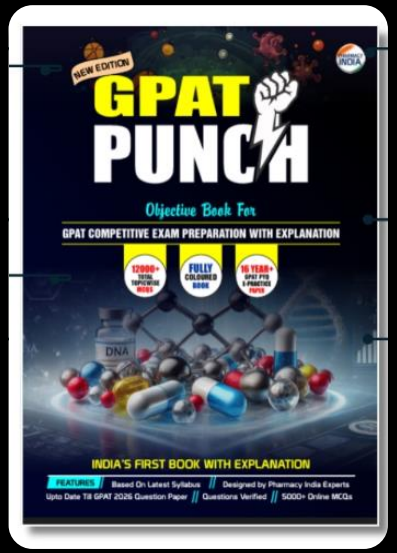



## Explanation:

Coniferae mainly consists of woody trees and shrubs with characteristic evergreen habit. Needle-like leaves are commonly present and help reduce water loss. Reproductive structures are typically organized into cones containing sporophylls. Resin ducts are widely distributed in different parts of these plants. These botanical features collectively identify the group as Coniferae.

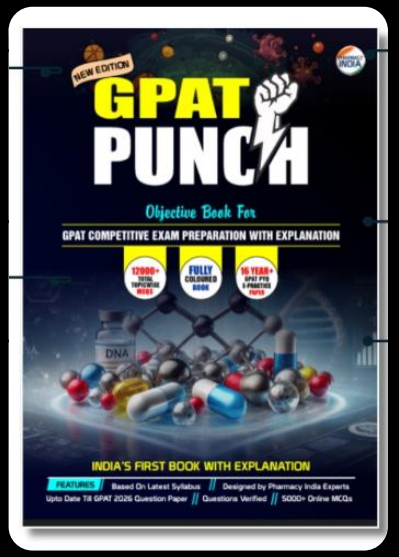
09. **Which one of the following is an organized crude drug?**

(a) Acacia Gum

(b) Resin

(c) Rauwolfia Root

(d) Dried Juice



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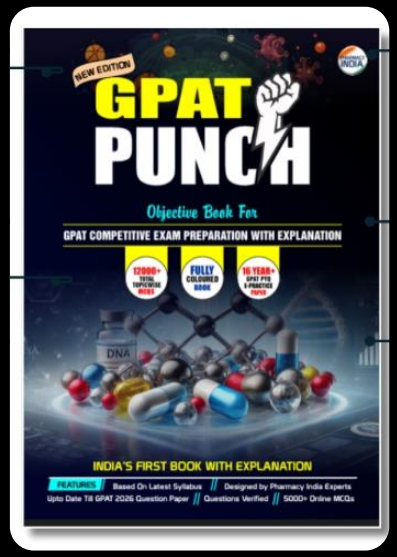


## Explanation:

- Rauwolfia is supplied as a root and retains its natural cellular and anatomical organization. Organized drugs are obtained as definite plant organs such as roots, leaves, flowers, fruits and barks. Gums, resins and dried juices generally lack complete cellular organization. Microscopic examination can reveal characteristic tissues in organized crude drugs.

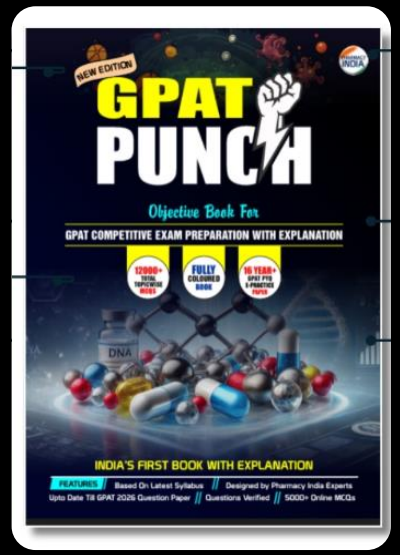
10. **Animal cells do not contain: [GPAT 2016]**

(a) Chloroplast

(b) Cytoplasm

(c) Nucleus

(d) Cell membrane



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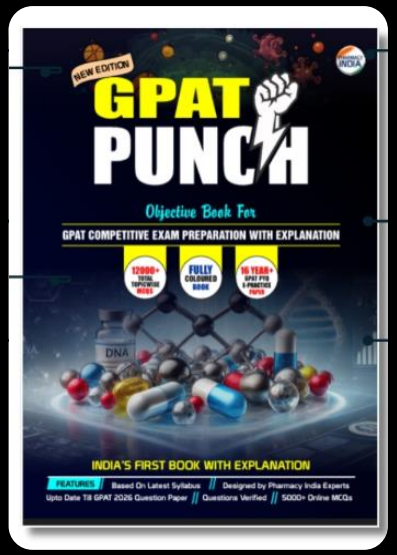

## Explanation:

- Chloroplasts are specialized plastids responsible for photosynthesis in plant cells. Typical animal cells cannot carry out photosynthesis and therefore lack chloroplasts. Cytoplasm and cell membrane are essential components of animal cells. Most typical animal cells also possess a nucleus containing genetic material. Chloroplast is thus the structure absent from animal cells.

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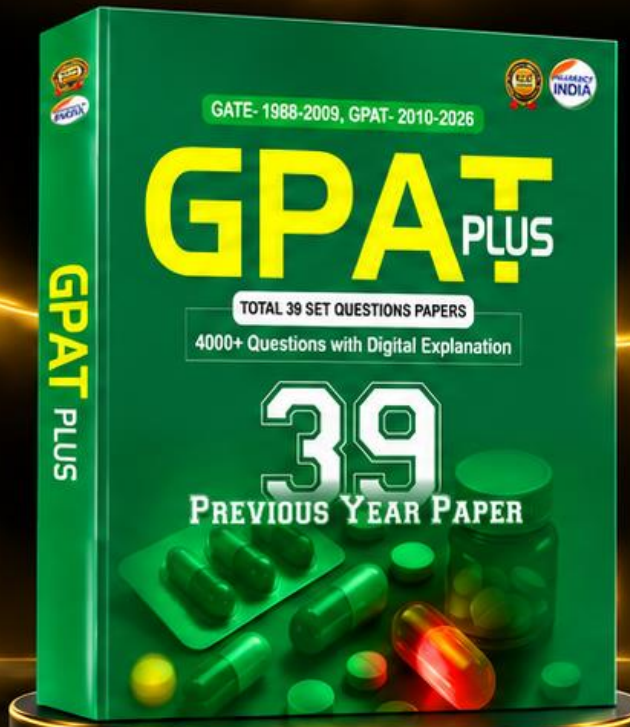


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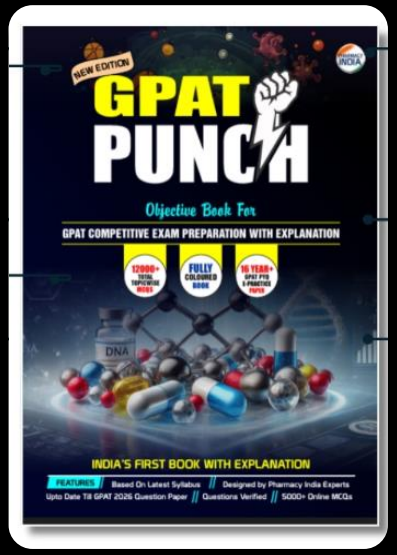
11. **Meristematic tissues have the following characteristics EXCEPT: [GPAT 2014]**

(a) They do not have any capacity for multiplication

(b) The cells are small and isodiametric in nature

(c) The cells are thin-walled with prominent nucleus

(d) The cells are compactly arranged without intercellular spaces



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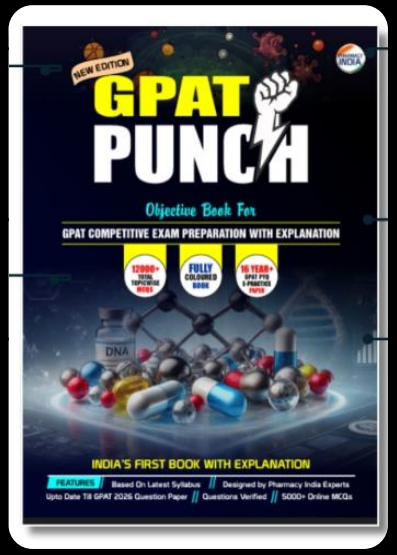


## Explanation:

- Meristematic cells remain actively involved in cell division and multiplication. They are generally small, isodiametric and metabolically active. Thin primary walls facilitate continued growth and division. A prominent nucleus is commonly present in these actively dividing cells. Their compact arrangement usually leaves little or no intercellular space.

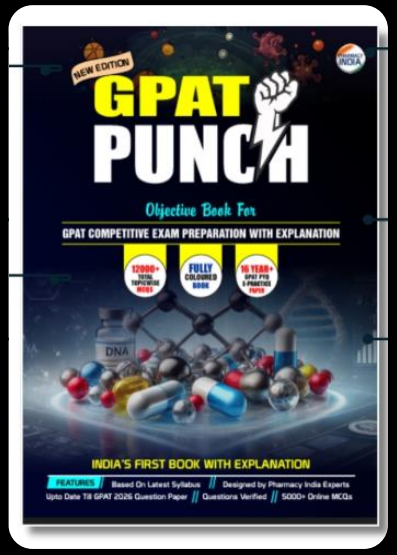
12. **Which of the following is a characteristic feature of meristematic cells?**

(a) Large cells with thick lignified walls

(b) Small and isodiametric cells

(c) Large intercellular spaces

(d) Dead cells without nuclei



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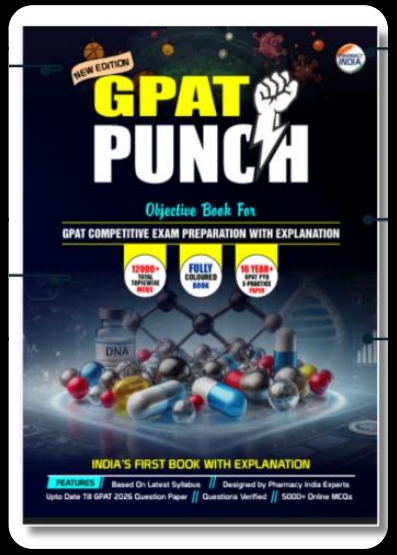


## Explanation:

- Meristematic cells occur in actively growing regions of plants. Their small size and approximately equal dimensions produce an isodiametric appearance. They possess living protoplasm and prominent nuclei because of active cellular division. Thick lignified walls are generally associated with differentiated supportive tissues. Large intercellular spaces are also usually absent from meristematic tissue.

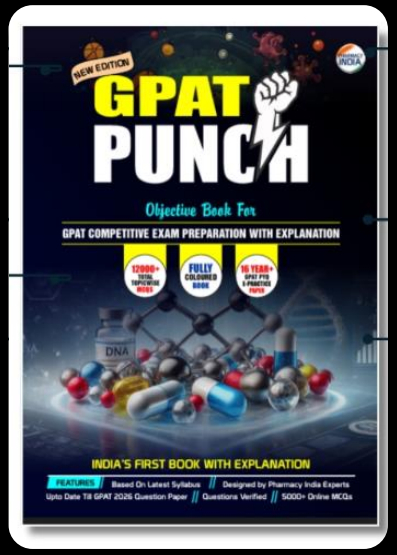
13. **Identify the mismatched pair: [GPAT 2013]**

(a) Hydathodes — Piper betel

(b) Arillode — Cardamom

(c) Caruncle — Belladonna

(d) Strophiole — Colchicum



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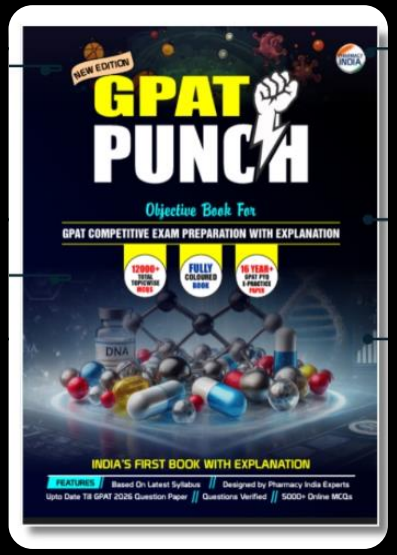


## Explanation:

- Hydathodes are associated with Piper betel. Cardamom is associated with an arillode as a characteristic seed structure. Colchicum possesses a strophiole as a diagnostic seed feature. Caruncle does not correctly correspond with Belladonna in the listed associations. Morphological structures of seeds and leaves are useful in crude-drug identification.

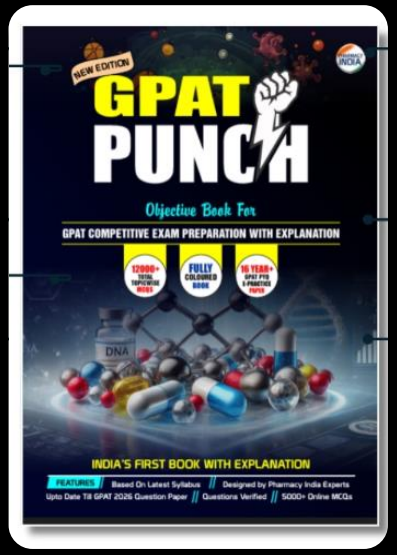
14. **Arillode is: [GATE 2007]**

(a) Warty outgrowth from microphyll, e.g. Castor

(b) Succulent growth from hilum covering the entire seed, e.g. Nutmeg

(c) Outgrowth originating from micropyle and covering the seed, e.g. Cardamom

(d) Enlarged funicle, e.g. Colchicum seed



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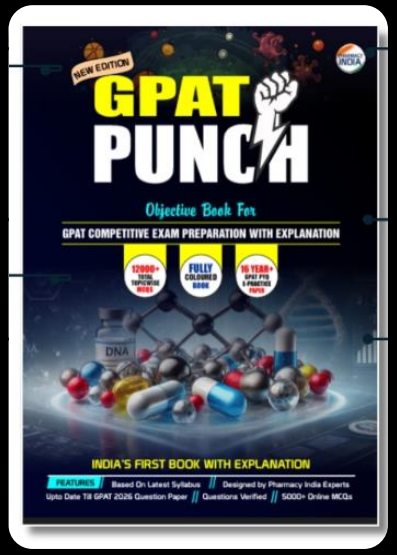


## Explanation:

- An arillode is an accessory seed structure associated with the micropyle. It may develop around or cover part of the seed surface. Cardamom is given as the representative example. Seed appendages provide important morphological characters for pharmacognostic identification. Arillode must be differentiated from structures such as aril, caruncle and strophiole.

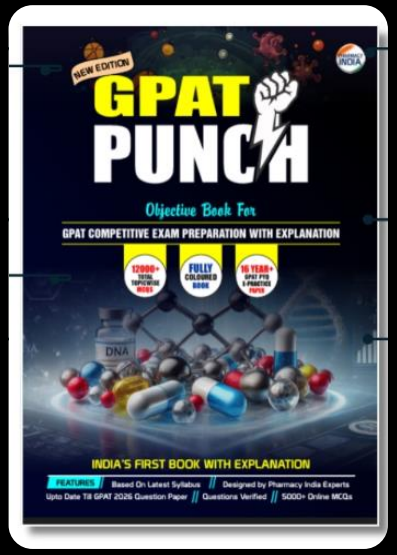
15. **Fruits derived from plants of Umbelliferae are generally of which type? [GATE 1991]**

(a) Cremocarp

(b) Pericarp

(c) Epicarp

(d) Mesocarp



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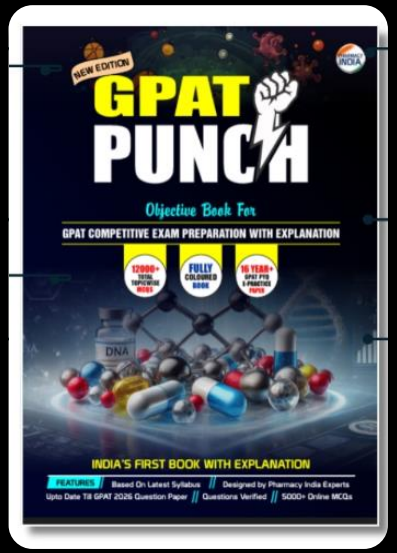

## Explanation:

- Cremocarp is the characteristic dry fruit type associated with members of Umbelliferae. At maturity it commonly separates into two one-seeded mericarps. This fruit character is useful in identification of many pharmacognostically important plants. Pericarp refers generally to the entire fruit wall rather than a specific fruit type. Epicarp and mesocarp are individual layers of the pericarp.

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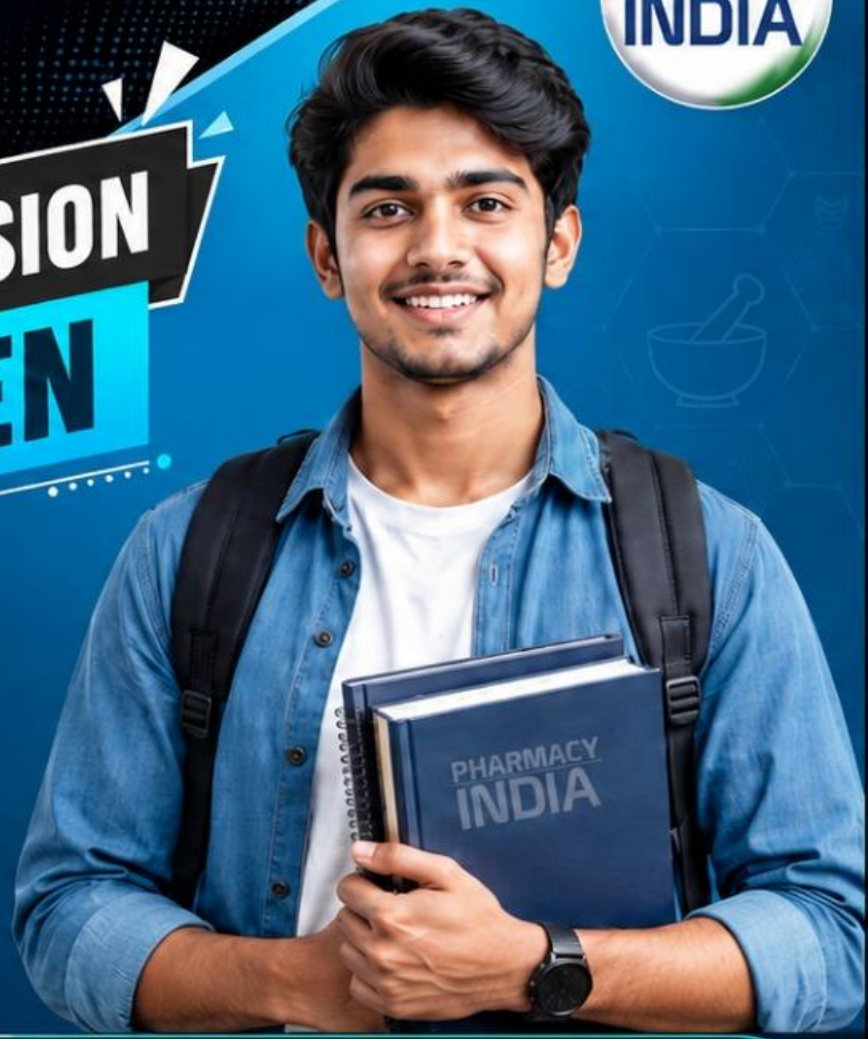


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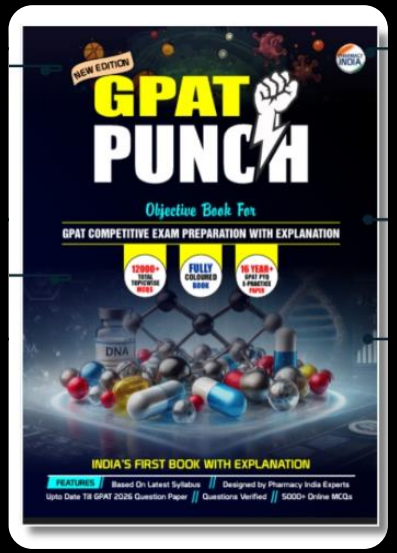
**16. Palisade ratio is defined as the:**

(a) Number of palisade cells above each epidermal cell

(b) Number of palisade cells beneath each epidermal cell

(c) Average number of palisade cells beneath each epidermal cell

(d) Number of palisade and epidermal cells together



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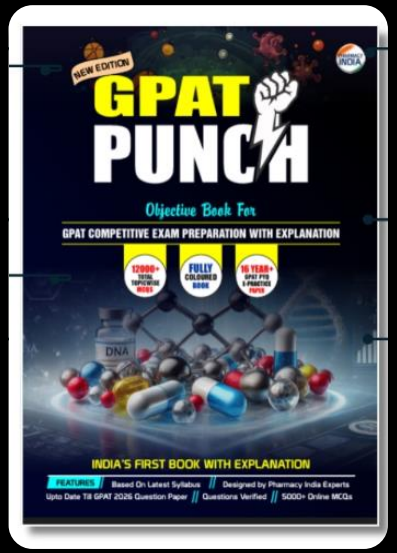


## Explanation:

- Palisade ratio is an important quantitative microscopic constant used for leaf drugs. It is calculated by observing palisade cells associated with epidermal cells. An average value is taken rather than relying on a single isolated observation. The value can help distinguish genuine material from related or substituted leaves.

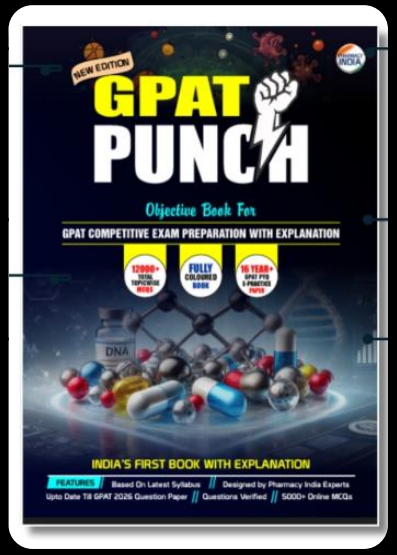
17. **What is the main challenge faced by the herbal industry in terms of standardization?**

(a) High cost of production

(b) Limited herbal species

(c) Insufficient market demand

(d) Lack of quality control



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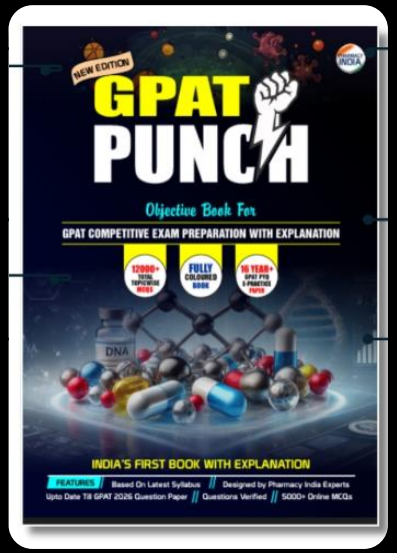


## Explanation:

- Herbal materials may show variation due to source, climate, cultivation and processing conditions. Proper quality-control procedures are essential for maintaining consistency between batches. Identity, purity and strength must be evaluated during standardization. Inadequate quality control can lead to variation in therapeutic quality and safety. This makes quality control a major requirement in the herbal industry.

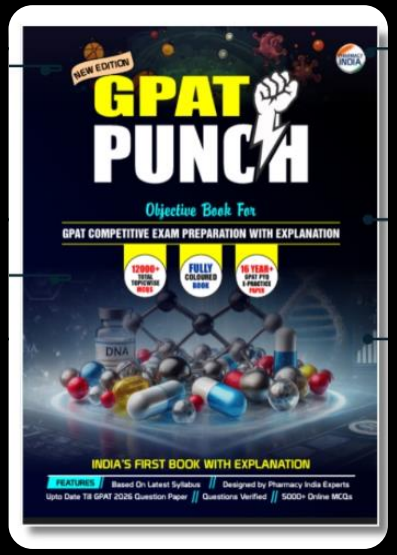
18. **All of the following are advantages of organic farming EXCEPT:**

(a) It is free of poison

(b) It provides better nutrition

(c) It helps to stay healthy

(d) It is expensive



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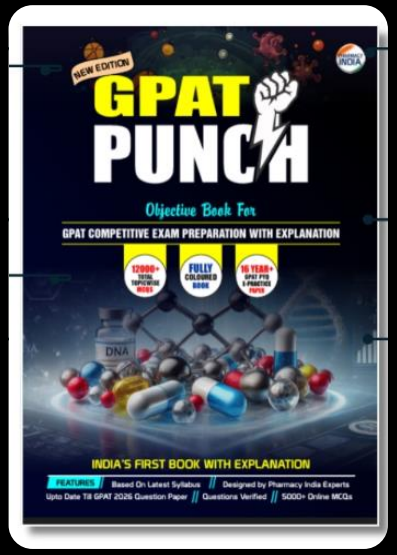


## Explanation:

- Organic farming aims to minimize the use of synthetic agricultural chemicals. Reduced chemical exposure is considered one of its important benefits. Such farming practices are also associated with environmentally sustainable cultivation methods. Higher production or purchase cost represents an economic disadvantage rather than a benefit.

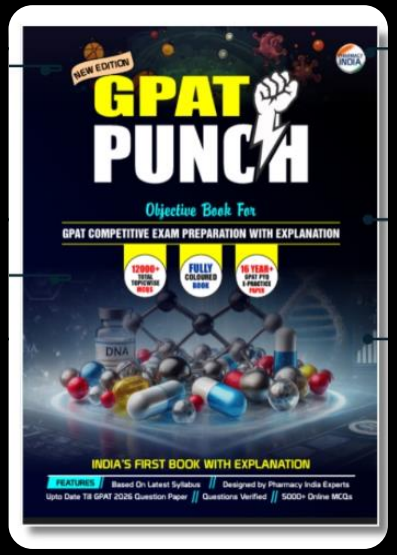
**19.** **The organoleptic properties related to taste and smell in herbs are primarily assessed for:**

(a) Toxicity

(b) Quality control

(c) Cost analysis

(d) Shelf life



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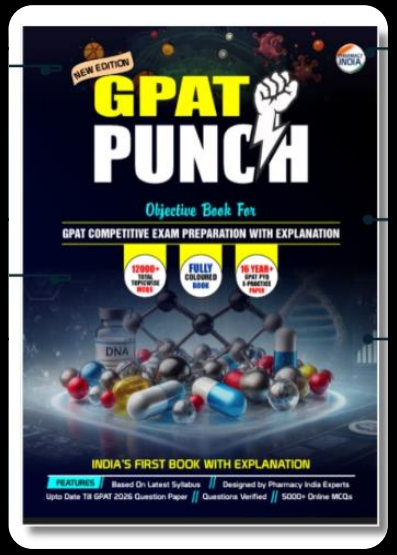


## Explanation:

- Organoleptic evaluation uses sensory characters such as colour, odour, taste, texture and appearance. These characteristics provide rapid preliminary information about identity and quality. Abnormal odour or taste may indicate deterioration, substitution or contamination. Sensory evaluation is therefore an important preliminary method for crude-drug assessment. It forms an integral part of pharmacognostic quality control.

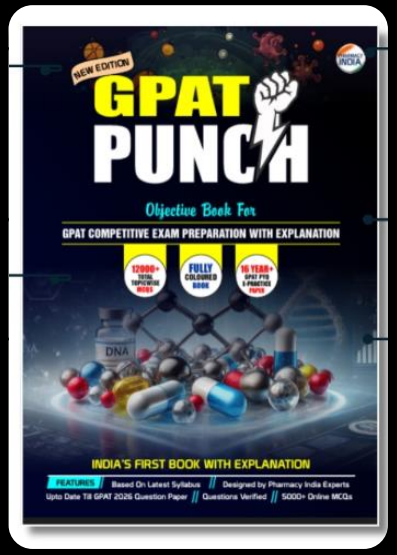
**20.** **In adulteration of natural drugs, impairment in the quality of a drug is termed:**

(a) Spoilage

(b) Inferiority

(c) Deterioration

(d) Substitution



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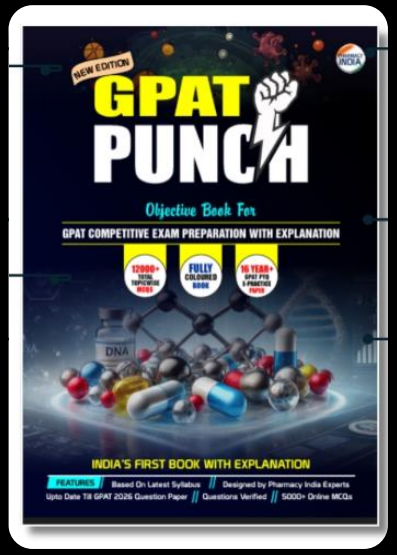



## Explanation:

- Deterioration represents a decline in the original quality of a crude drug. It may occur during storage, handling or exposure to unsuitable environmental conditions. Such changes can affect appearance, chemical constituents and therapeutic value. Substitution involves replacement with another material, whereas inferiority refers to substandard quality. Deterioration specifically denotes progressive impairment of quality.

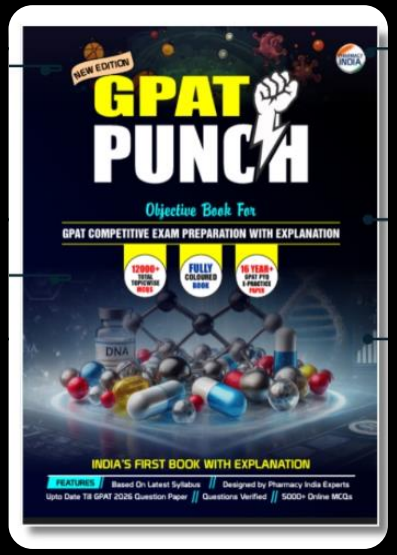
21. **The study of physical, chemical and biological properties of drugs obtained from natural sources is called:**

(a) Pharmacology

(b) Pharmacognosy

(c) Pharmaceutics

(d) Pharmacy

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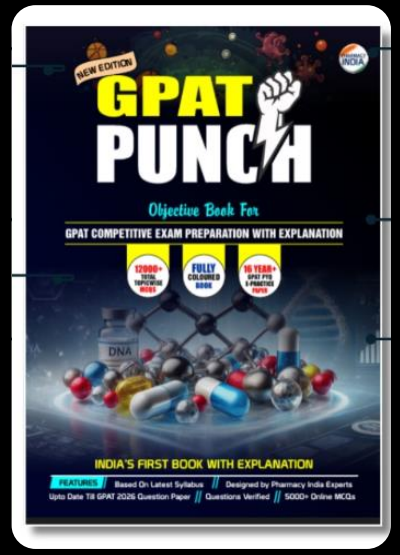


## Explanation:

- Pharmacognosy deals primarily with medicinal substances obtained from natural sources. It includes their identification, collection, processing, evaluation and chemical constituents. Plant, animal and other natural materials may be included in its scope. Pharmacology mainly studies drug actions and effects on living systems.

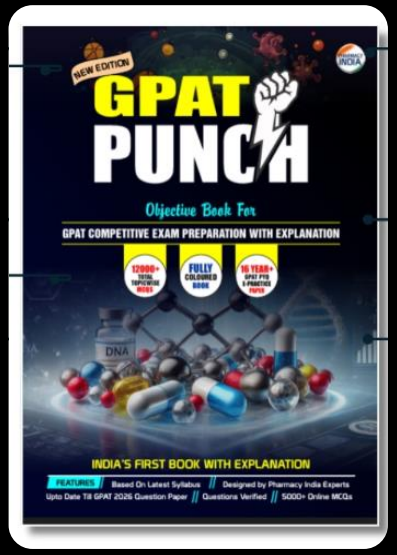
22. **What is the main role of stomata in plant leaves?**

(a) Water transport

(b) Gas exchange

(c) Nutrient absorption

(d) Mechanical support



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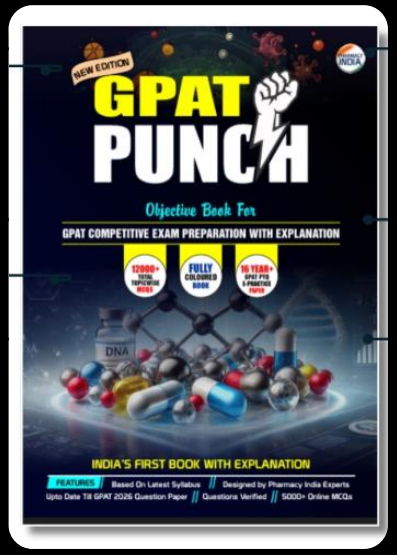


## Explanation:

- Stomata are microscopic pores mainly present in the epidermis of leaves. They permit carbon dioxide to enter tissues for photosynthesis. Oxygen and water vapour can move outward through the same openings. Guard cells regulate opening and closing according to physiological conditions.

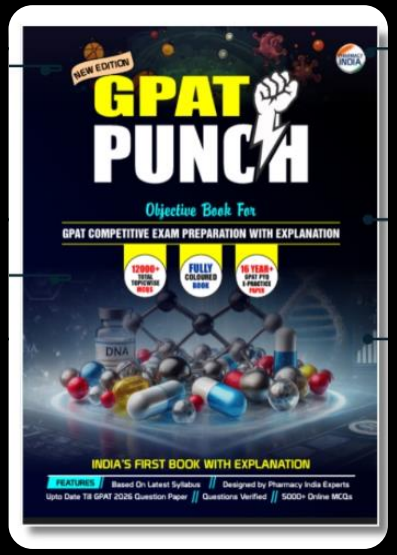
23. **The term “phytopharmaceuticals” refers to:**

(a) Synthetic drugs

(b) Herbal drugs

(c) Microbial drugs

(d) Biotechnologically produced drugs



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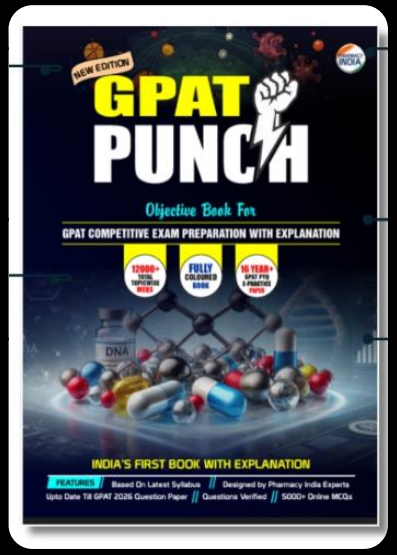


## Explanation:

- The prefix “phyto” refers to plants and plant-derived materials. Phytopharmaceutical products are therefore associated with medicinal substances obtained from plant sources. They may contain biologically active constituents derived from medicinal plants. Synthetic and microbial products originate from different sources and categories.

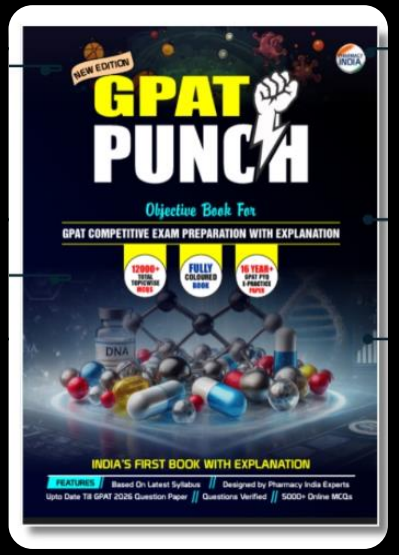
**24. Which one of the following is the pharmacopoeial definition of a crude drug?**

(a) Dried part of the plant

(b) Plant part or its preparation described in the pharmacopoeia

(c) Plant part used in medicine

(d) None of these

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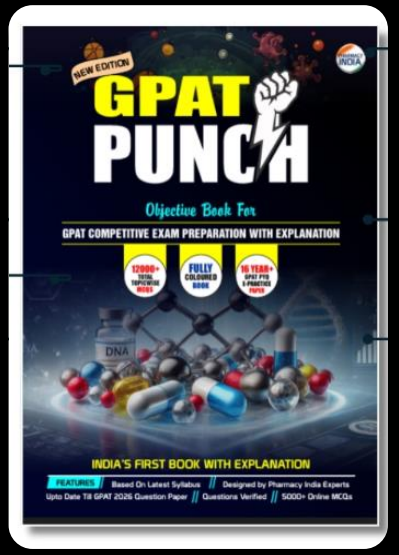


## Explanation:

- Pharmacopoeial recognition requires a medicinal substance to be described through an official monograph or standard. Such descriptions specify identity and relevant quality requirements for the material. A crude drug is not necessarily restricted only to a dried plant part. Merely having medicinal use also does not by itself make a material pharmacopoeially recognized. Official description in the pharmacopoeia provides the required basis.

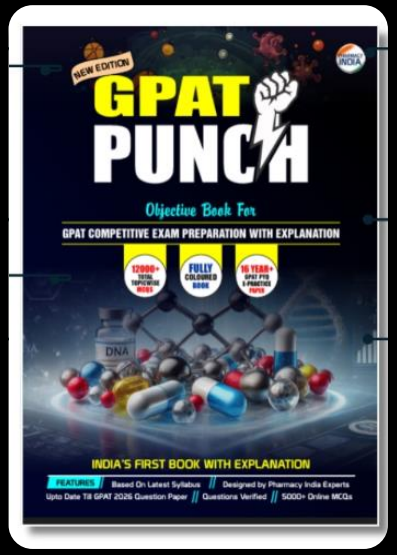
25. **Who is credited with the isolation of Narcotine from Opium?**

(a) Derosne

(b) Sertuerner

(c) Pelletier

(d) Stas and Otto



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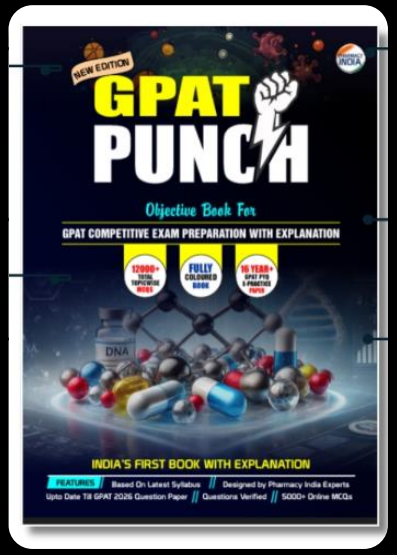


## Explanation:

- Derosne is associated with the early isolation of Narcotine from Opium. This event represents an important stage in the chemical investigation of crude drugs. Isolation of individual constituents helped transform natural-drug study into a more scientific discipline. Sertuerner is particularly associated with Morphine. Pelletier contributed to the isolation of several other important alkaloids.

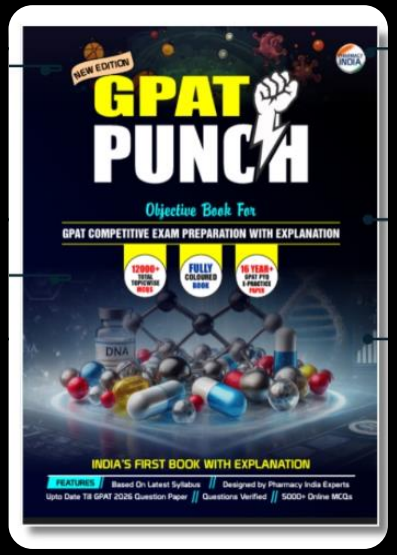
**26. Which of the following drugs is obtained from an animal source?**

(a) Dicoumarol

(b) Heparin

(c) Senna

(d) Cocaine



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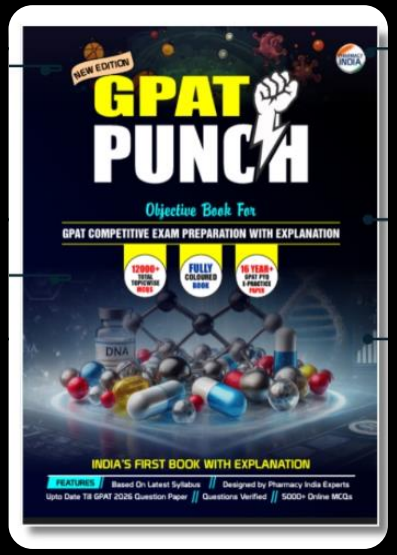


## Explanation:

Heparin is traditionally obtained from animal tissues and is therefore classified as an animal-derived drug. Senna is obtained from plant leaves and is a botanical crude drug. Cocaine is a plant-derived alkaloid obtained from Coca species. Dicoumarol is not classified as the animal-derived drug among these choices. Heparin consequently represents the correct animal-source example.

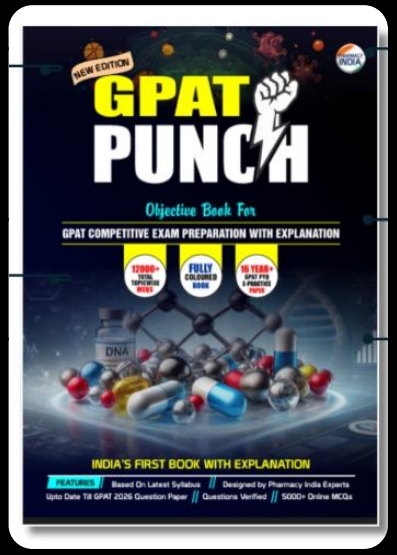
27. **In which country are herbal medicinal preparations stated to be more in demand than pharmaceutical preparations?**

(a) Japan

(b) China

(c) Korea

(d) Germany



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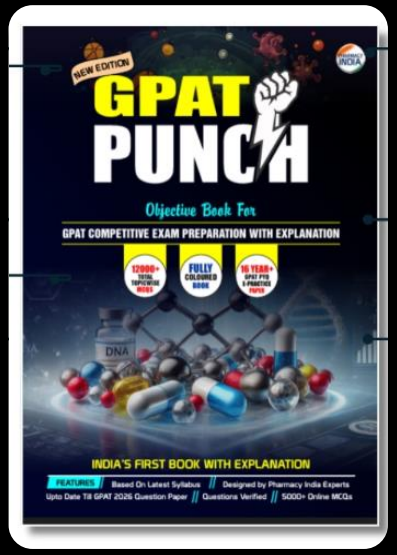


## Explanation:

Japan is identified for comparatively high demand for herbal medicinal preparations. Traditional systems and herbal preparations have maintained an important place in healthcare practices there. Such demand contributes to continued cultivation, processing and standardization of medicinal plants. Quality assurance remains necessary when herbal preparations are used on a large scale.

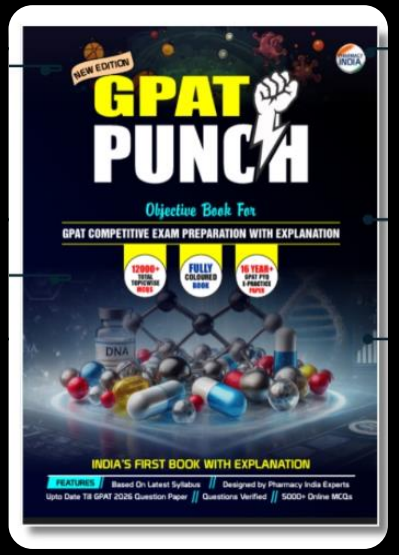
**28.** **Which statement is NOT correct regarding patentability of herbal medicines?**

(a) Traditional Indian Ayurvedic System of Medicine is not patentable

(b) New use of herbal medicine is not patentable

(c) New isolation process of a phytoconstituent is patentable

(d) Modification in traditional Ayurvedic formulation is patentable



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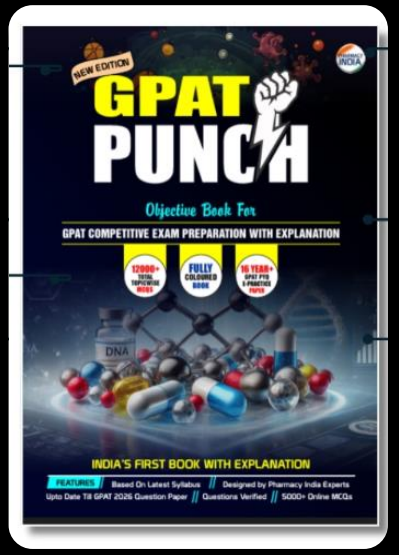


## Explanation:

Patent considerations distinguish traditional knowledge from sufficiently novel and inventive developments. New processes for isolation may qualify differently from already known traditional knowledge. Modified formulations may also be considered according to applicable patent requirements.

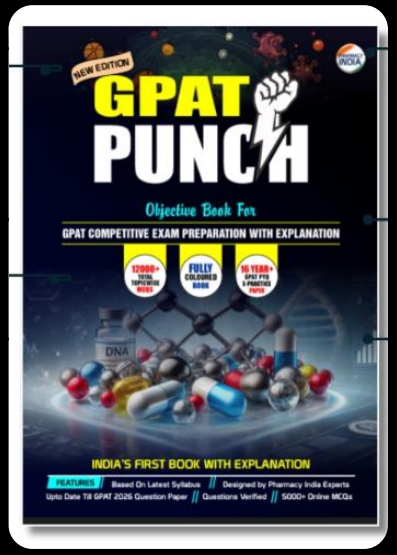
29. **WHO guidelines on GMP for herbal medicines do NOT explicitly include which of the following?**

(a) Sanitation and hygiene

(b) Training

(c) Quality control

(d) Ethics



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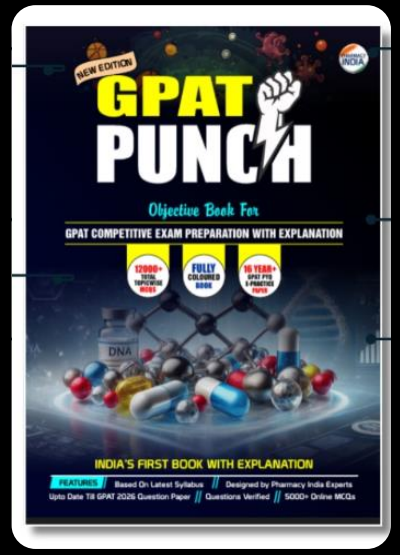


## Explanation:

GMP focuses on systematic requirements needed to ensure consistent manufacturing quality. Sanitation and hygiene are essential for preventing contamination during production. Training ensures that personnel understand and follow appropriate manufacturing procedures. Quality control confirms that materials and products meet required specifications.

**30.** Which combination of statements regarding the history of Pharmacognosy is correct?

P. Pen-t'sao contains 365 drugs, one for each day of the year.

Q. Charaka Samhita and Sushruta Samhita are well-known treatises in Ayurveda.

R. Bentham and Hooker introduced binomial nomenclature.

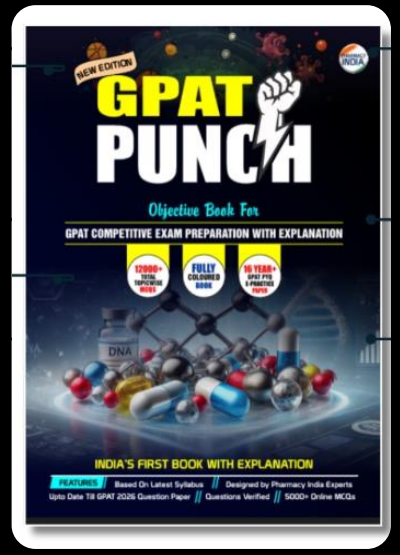
S. Gattefossé coined the term aromatherapy.

(a) P true, Q true, R false, S true

(b) P true, Q false, R true, S false

(c) P true, Q true, R true, S false

(d) P false, Q true, R false, S true



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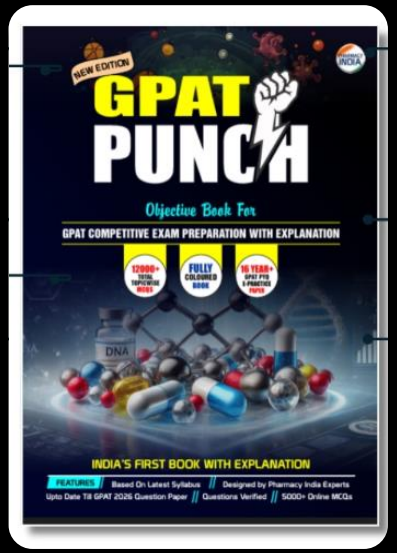

## Explanation:

Pen-t'sao is an ancient Chinese herbal traditionally associated with 365 medicinal substances. Charaka Samhita and Sushruta Samhita are major classical Ayurvedic texts. Binomial nomenclature is associated with Linnaeus rather than Bentham and Hooker. Gattefossé is associated with introduction of the term aromatherapy.

31. **Which of the following is an incorrect pair?**

(a) Dioscorides — Father of Pharmacognosy

(b) Hippocrates — Father of experimental physiology

(c) Sushruta — Father of cosmetic surgery

(d) Aristotle — Father of natural history

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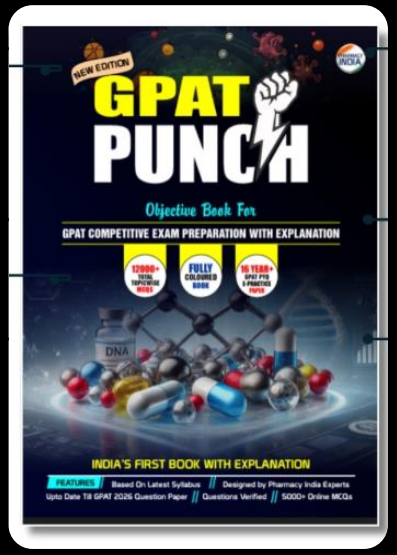


## Explanation:

Hippocrates is traditionally regarded as the Father of Medicine. Experimental physiology is associated with later developments in physiological science rather than with Hippocrates. Dioscorides has an important historical association with medicinal plants and Materia Medica. Sushruta is renowned for major contributions to ancient surgery. The Hippocrates–experimental physiology association is therefore the incorrect pair in the supplied set.

**32.** **Match the scientists with the drugs associated with them.**

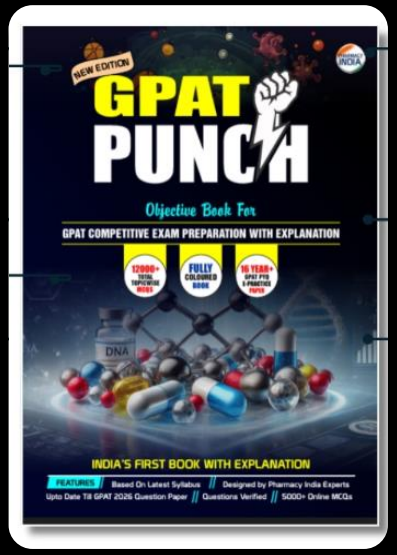
| SCIENTISTS | DRUG |
|---|---|
| 1. Nagai | P. Pilocarpine |
| 2. Niemann | Q. Ephedrine |
| 3. Pelletier | R. Strychnine |
| 4. Gerrard and Hardy | S. Cocaine |

(a) 1-Q, 2-R, 3-P, 4-S

(b) 1-Q, 2-S, 3-R, 4-P

(c) 1-Q, 2-R, 3-S, 4-P

(d) 1-R, 2-Q, 3-S, 4-P



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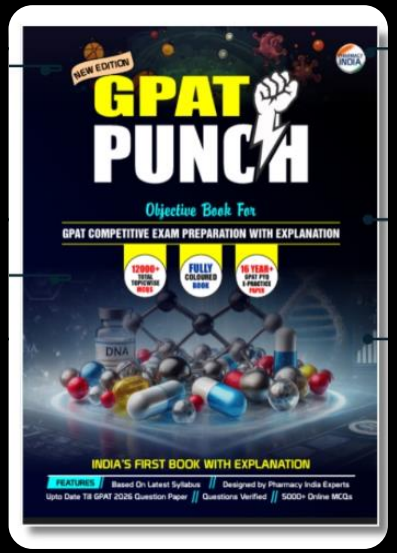


**Explanation:**

Nagai is associated with the isolation of ephedrine from Ephedra, while Niemann isolated cocaine from coca leaves. Pelletier, along with Caventou, isolated strychnine from Strychnos nux-vomica. Gerrard and Hardy are associated with the isolation of pilocarpine from Pilocarpus species.

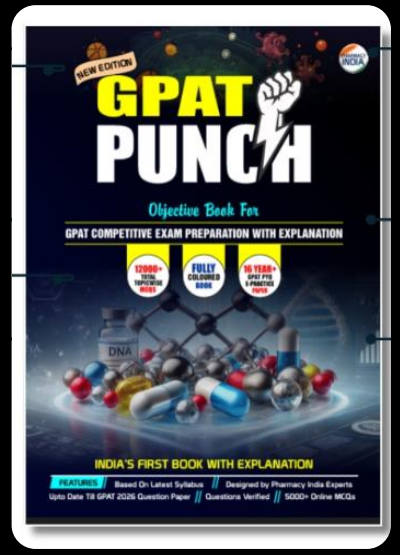
33. **Initially in the 19th century, which term was used for the subject now known as Pharmacognosy?**

(a) Analecta Pharmacognostica

(b) Materia Medica

(c) Pharmakon

(d) Analecta Medica



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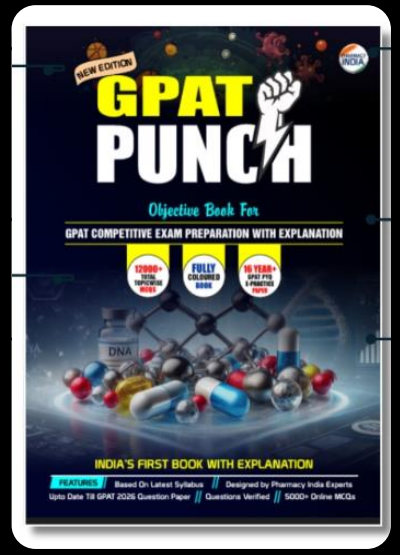
(c) Pharmakon

(d) Analecta Medica



## Explanation:

Materia Medica historically covered knowledge of medicinal substances and their uses. The discipline later developed into more specialized fields including Pharmacognosy and Pharmacology. Natural drugs formed an important part of traditional Materia Medica. Scientific advances gradually introduced botanical, chemical and microscopic approaches to their study.

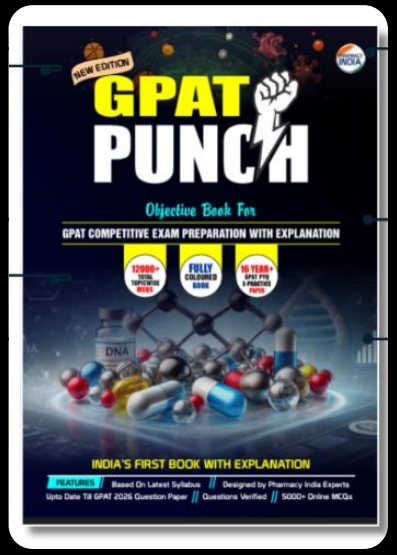
34. **German chemist Sertuerner isolated:**

(a) Opium and Strychnine

(b) Opium and Morphine

(c) Morphine only

(d) Morphine and Ethanol



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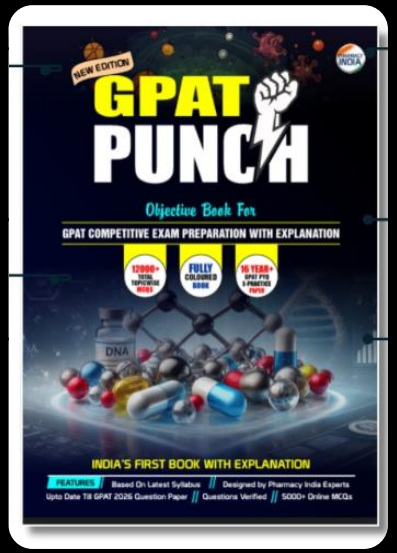


## Explanation:

Sertuerner is historically associated with the isolation of Morphine from Opium. Morphine became one of the earliest important alkaloids isolated from a medicinal plant source. Its isolation demonstrated that specific active chemical principles could be separated from crude drugs. This discovery strongly influenced development of alkaloid chemistry and Pharmacognosy. Strychnine and other alkaloids were associated with different investigators.

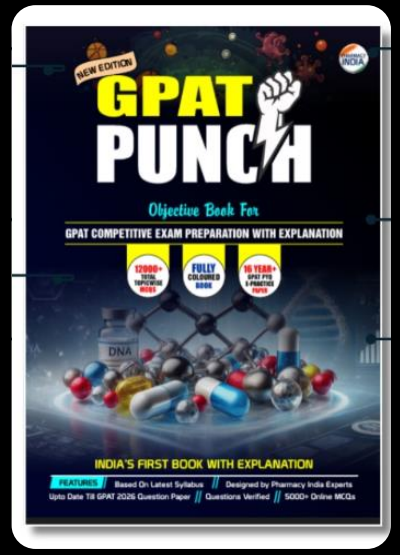
35. **Who was the first pharmacist described as preparing medicines containing active constituents of crude drugs by different methods?**

(a) Galen

(b) Seydler

(c) Sertuerner

(d) Aristotle



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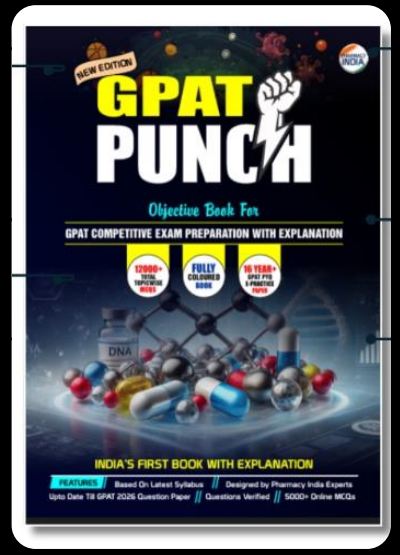


## Explanation:

Galen is historically associated with preparation of medicines from natural materials through various pharmaceutical processes. Preparations produced by such methods later became known as galenical preparations. His work contributed substantially to early pharmacy and formulation practices. Seydler is mainly associated with the terminology of Pharmacognosy.

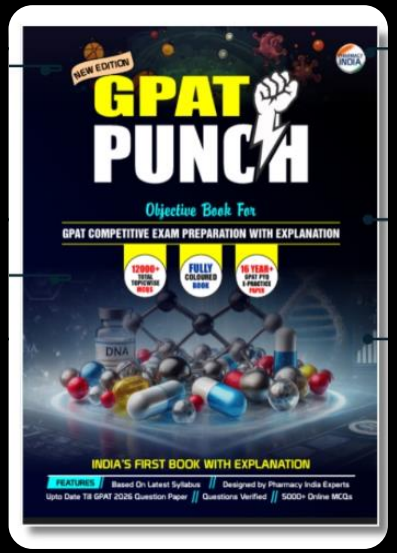
36. **Who coined the term “Pharmacognosy”?**

(a) Hippocrates

(b) Pelletier

(c) Aristotle

(d) Seydler



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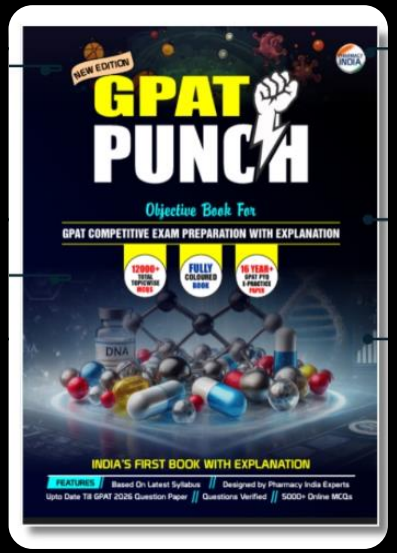


## Explanation:

Seydler is associated with establishing the term Pharmacognosy in pharmaceutical literature. The term became connected with systematic scientific study of crude drugs from natural sources. Hippocrates is primarily associated with the development of medicine. Pelletier is known for work involving isolation of important natural constituents. Aristotle made major contributions to natural philosophy and biological observation.

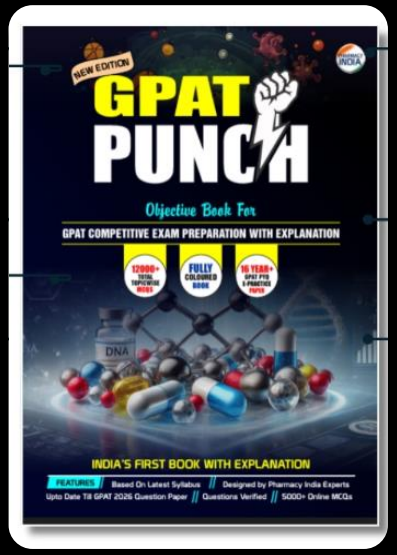
37. **Name the oldest known herbal written by Shen Nung.**

(a) Pen-t'sao

(b) Breverton's

(c) Volker Scheid

(d) All of the above



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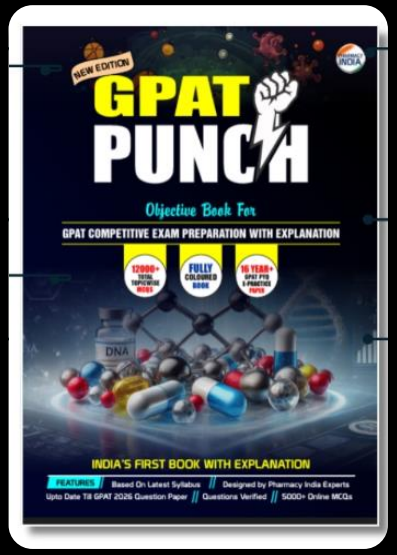


## Explanation:

Pen-t'sao is an ancient Chinese herbal traditionally associated with Emperor Shen Nung. It represents an early systematic record of medicinal substances obtained mainly from natural sources. The work has historical importance in development of herbal medicine and Pharmacognosy. Ancient herbals provided descriptions of medicinal plants and their traditional applications.

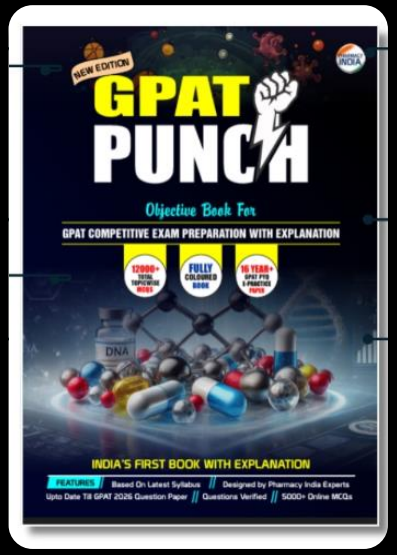
38. **Which of the following is NOT included among unorganized drugs?**

(a) Gums

(b) Juices

(c) Bark

(d) Resins



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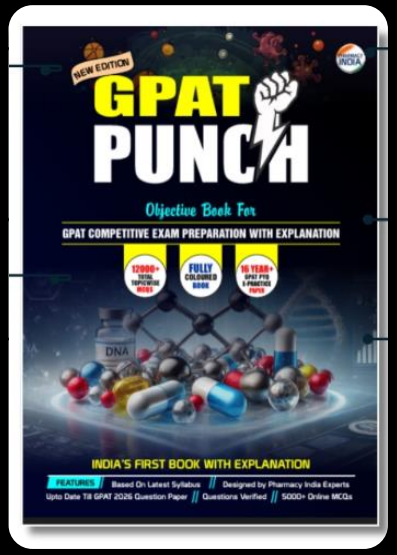


## Explanation:

Bark is obtained as a definite plant organ and retains recognizable cellular organization. It is consequently classified as an organized crude drug. Gums and resins are generally secretory or exudative products lacking complete tissue organization. Juices also belong to the unorganized category in this classification.

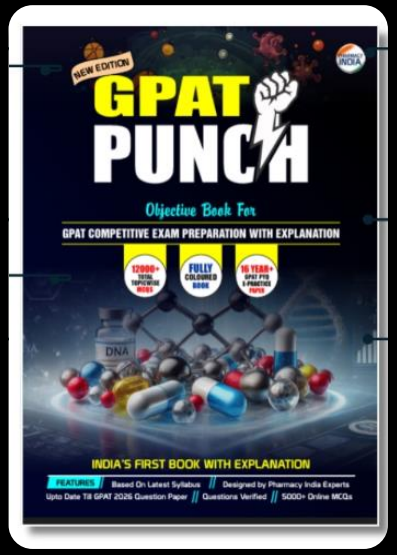
39. **Non-flowering spore-bearing plants without true roots are:**

(a) Alginic acid

(b) Pteridophytes

(c) Bryophytes

(d) Agar



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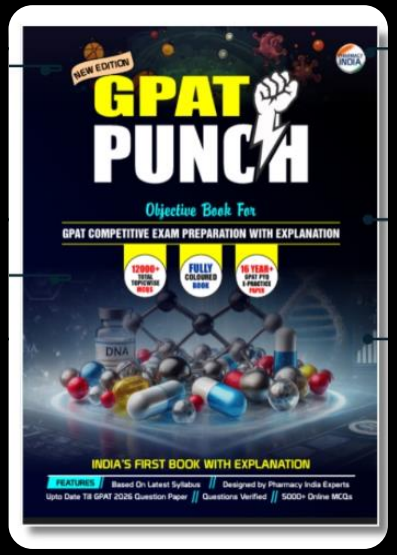


## Explanation:

Bryophytes are non-flowering plants that reproduce by spores. They lack true vascular roots and instead commonly possess rhizoids for anchorage. Pteridophytes possess true roots and well-developed vascular tissues. Alginic acid and Agar are natural products rather than plant groups.

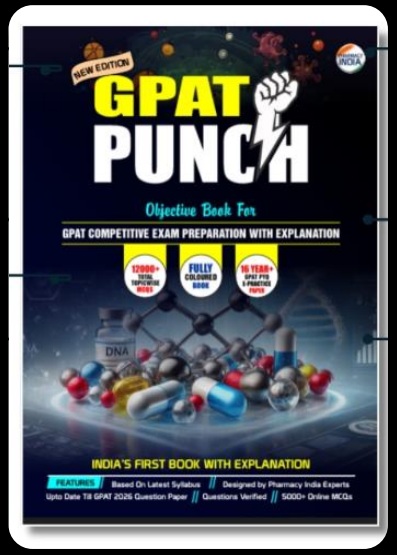
40. **The Central Institute of Medicinal and Aromatic Plants (CIMAP) is located in:**

(a) Lucknow

(b) Delhi

(c) Jaipur

(d) Mumbai



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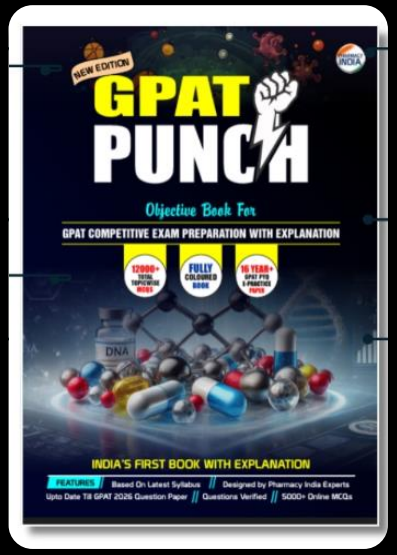


## Explanation:

CIMAP is located in Lucknow and is associated with research on medicinal and aromatic plants. Its work includes cultivation, plant improvement and investigation of economically useful natural products. Such research institutions contribute to scientific development of medicinal-plant resources. They also support standardization and improved production of plant-derived materials.

**41.** Match the following drugs with the year of their isolation.

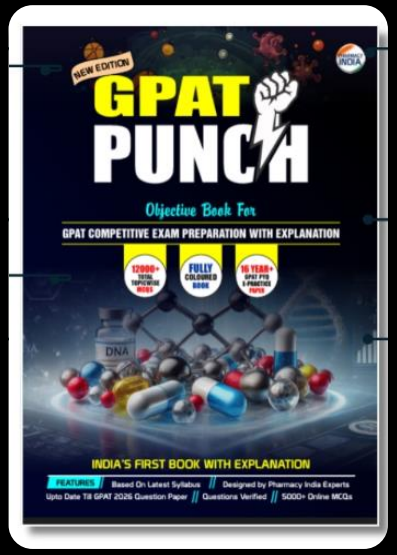
| DRUGS | YEAR |
|---|---|
| P. Strychnine | i. 1819 |
| Q. Quinine | ii. 1875 |
| R. Cocaine | iii. 1820 |
| S. Pilocarpine | iv. 1860 |

(a) Q-ii, R-i, S-iii, P-iv

(b) Q-iv, R-ii, S-iii, P-i

(c) P-i, Q-iii, R-iv, S-ii

(d) Q-i, R-iii, S-ii, P-iv



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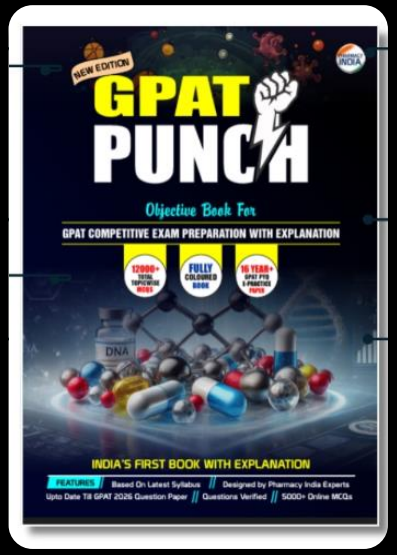
(b) Q-iv, R-ii, S-iii, P-i

(c) P-i, Q-iii, R-iv, S-ii

(d) Q-i, R-iii, S-ii, P-iv



## Explanation:

- Strychnine was isolated in 1819 from Strychnos nux-vomica. Quinine was isolated in 1820 from Cinchona bark. Cocaine was isolated in 1860 from coca leaves. Pilocarpine was isolated in 1875 from Pilocarpus species.

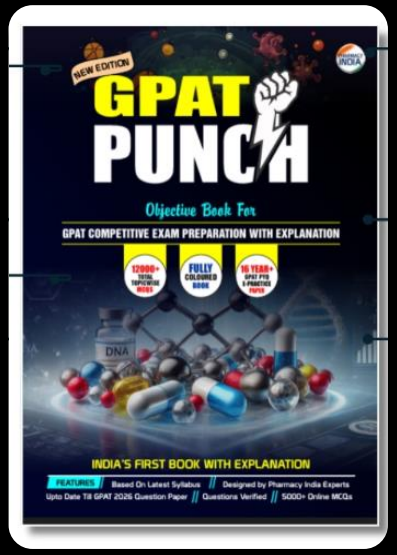
42. **Which Ayurvedic formulation occurs as a dry powder?**

(a) Churna

(b) Lehya

(c) Bhasma

(d) Arista



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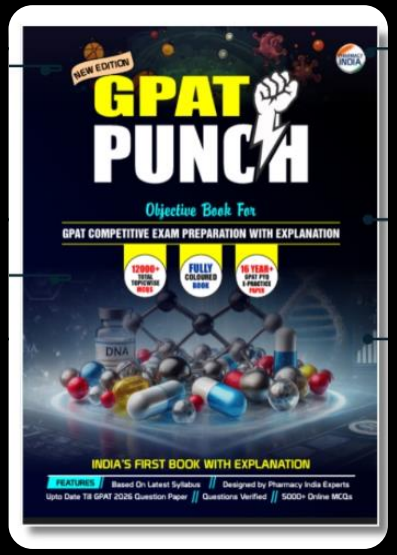


## Explanation:

- Churna is a powdered Ayurvedic dosage form prepared from finely divided medicinal materials. It is administered in dry form or with a suitable vehicle depending on the formulation. Lehya has a semisolid consistency and differs physically from Churna. Bhasma is associated with calcination, while Arista is a fermented preparation.

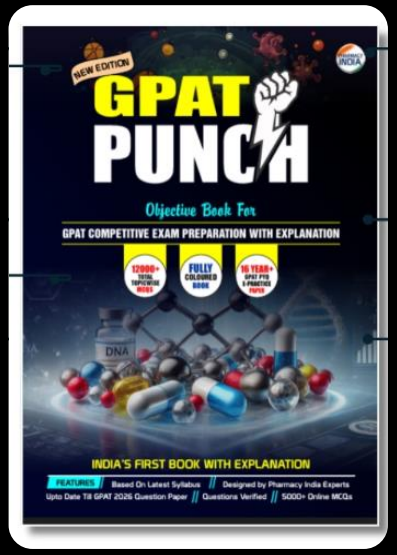
43. **Which Ayurvedic formulation has a semisolid consistency?**

(a) Churna

(b) Lehya

(c) Bhasma

(d) Arista



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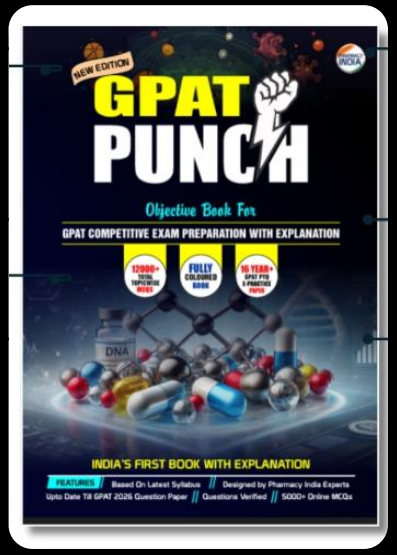


## Explanation:

- Lehya is prepared as a semisolid Ayurvedic formulation suitable for licking or oral administration. Its consistency distinguishes it from dry powdered preparations such as Churna. Bhasma consists of specially processed and calcined material. Arista belongs to fermented liquid preparations. Lehya is consequently associated with the semisolid property.

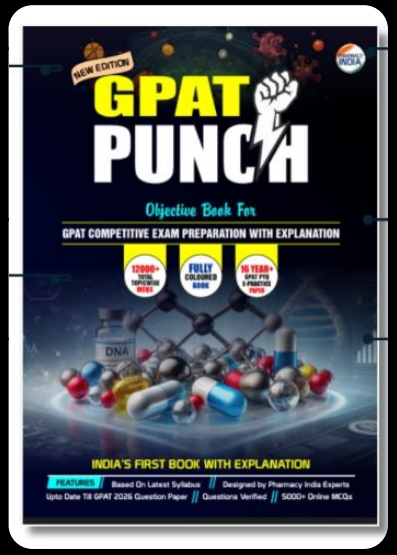
44. **Which Ayurvedic formulation is associated with calcination?**

(a) Churna

(b) Lehya

(c) Bhasma

(d) Arista



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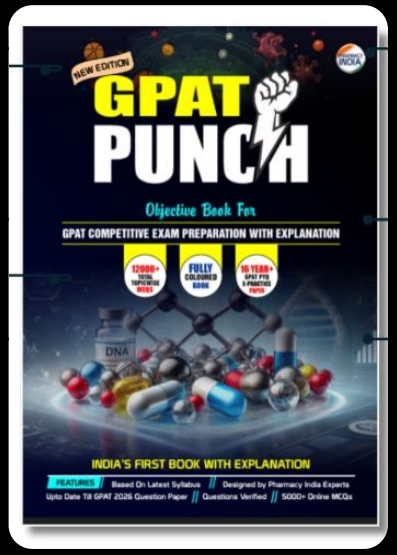


## Explanation:

- Bhasma preparation involves specialized processing in which calcination is an important step. Repeated processing is used to obtain a fine and appropriately prepared final material. Churna is simply a dry powdered formulation. Lehya is semisolid and Arista is produced through fermentation. Calcination is therefore characteristically linked with Bhasma.

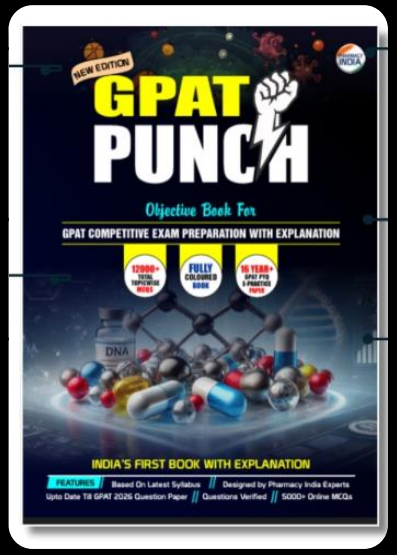
45. **Which Ayurvedic formulation is associated with alcohol generation?**

(a) Churna

(b) Lehya

(c) Bhasma

(d) Arista



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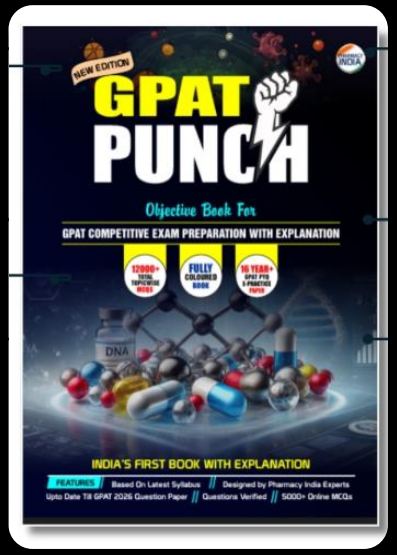


## Explanation:

- Arista is prepared through fermentation of medicinal ingredients in a suitable liquid medium. Fermentation generates alcohol naturally within the formulation. This alcohol helps extract and preserve certain active constituents. Churna, Lehya and Bhasma are prepared through different pharmaceutical processes.

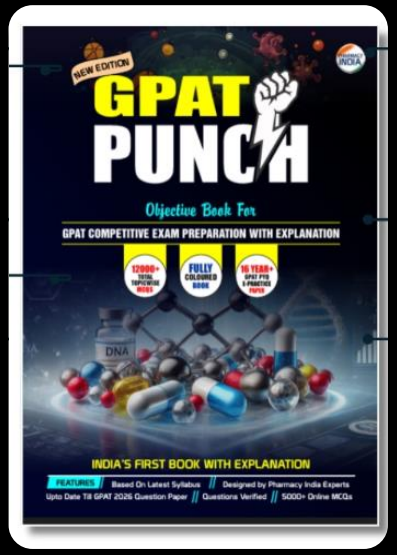
46. **Hydathodes are associated with which crude drug?**

(a) Piper betel

(b) Cardamom

(c) Belladonna

(d) Colchicum



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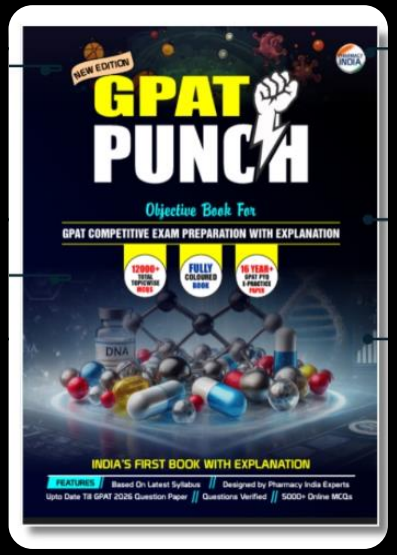


## Explanation:

- Hydathodes are specialized structures associated with guttation and release of water from plant tissues. Their presence can provide useful anatomical information during pharmacognostic identification. Piper betel is paired with hydathodes. Cardamom and Colchicum are associated with different seed structures.

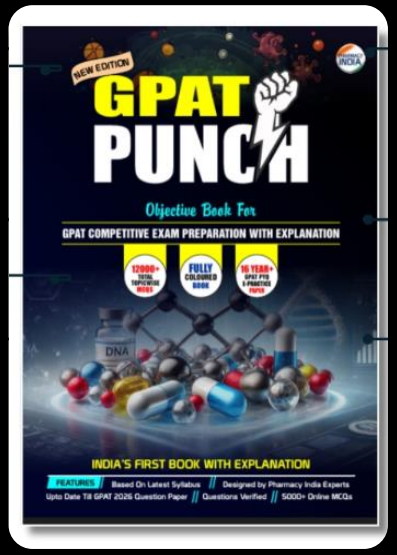
47. **Arillode is associated with which crude drug?**

(a) Piper betel

(b) Cardamom

(c) Belladonna

(d) Colchicum

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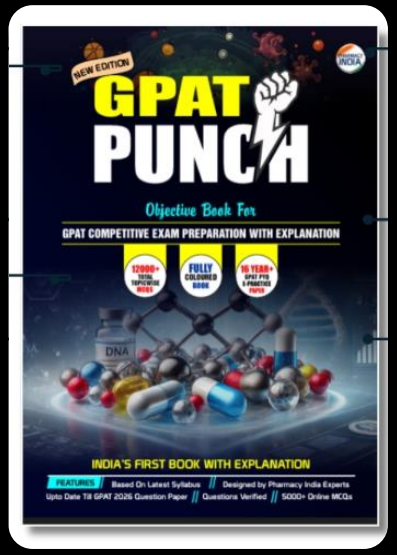


## Explanation:

- Cardamom possesses an arillode as an important seed-associated morphological feature. Such accessory structures can help in identification and differentiation of crude drugs. An arillode develops in association with the seed and differs from a true aril. Piper betel is associated with hydathodes instead.

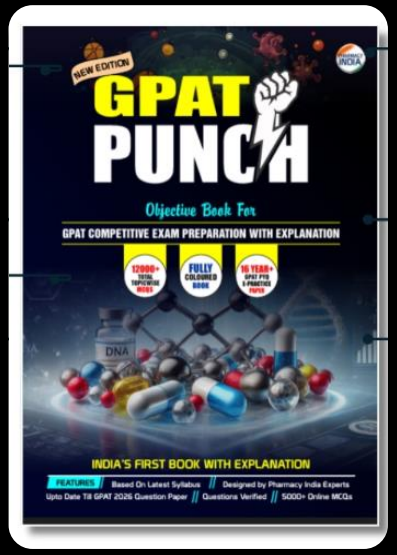
48. **Strophiole is associated with which crude drug?**

(a) Cardamom

(b) Piper betel

(c) Colchicum

(d) Belladonna



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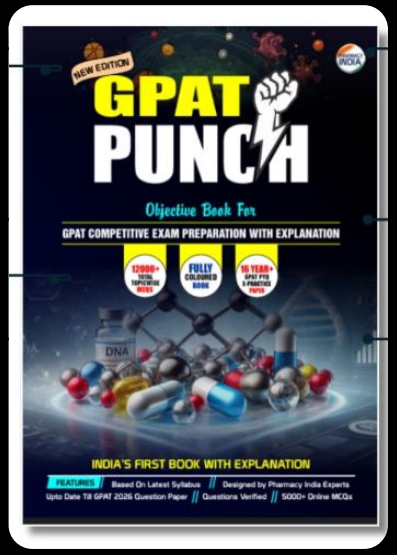


## Explanation:

- Strophiole is a specialized seed appendage useful as a morphological identification character. Colchicum is paired with strophiole in the supplied pharmacognosy material. Such seed structures assist in distinguishing genuine crude drugs from related materials. Cardamom is instead associated with arillode in the same source.

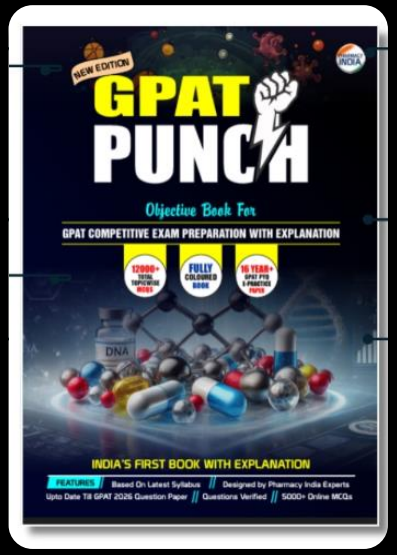
49. **Which combination correctly describes the wall and nucleus of meristematic cells?**

(a) Thick-walled with absent nucleus

(b) Thin-walled with prominent nucleus

(c) Lignified wall with degenerated nucleus

(d) Suberized wall without nucleus



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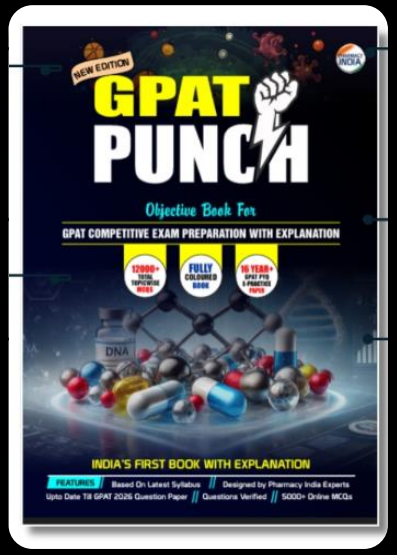


## Explanation:

- Meristematic cells possess thin primary cell walls that permit continued growth and division. Their nuclei are usually large and prominent because of intense metabolic and mitotic activity. Lignification and suberization are features of differentiated tissues rather than active meristems. These cells also contain dense cytoplasm and remain living. Thin walls with a prominent nucleus therefore characterize meristematic tissue.

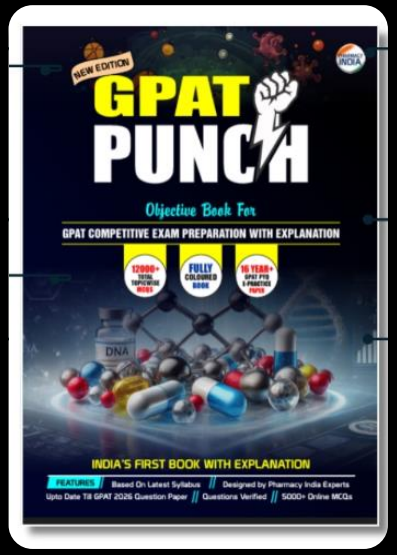
50. **How are meristematic cells generally arranged?**

(a) Loosely with large intercellular spaces

(b) Compactly without intercellular spaces

(c) Only in concentric rings

(d) With large air cavities



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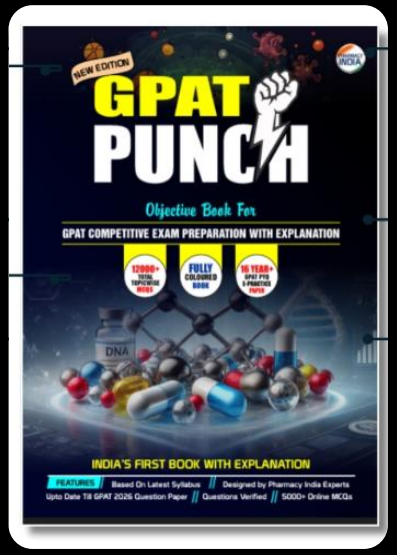

## Explanation:

- Meristematic cells remain closely packed in actively growing regions of plants. Little or no intercellular space occurs between adjacent cells. Their compact arrangement supports continuous division and tissue formation. Large air spaces are more typical of certain differentiated tissues such as aerenchyma.

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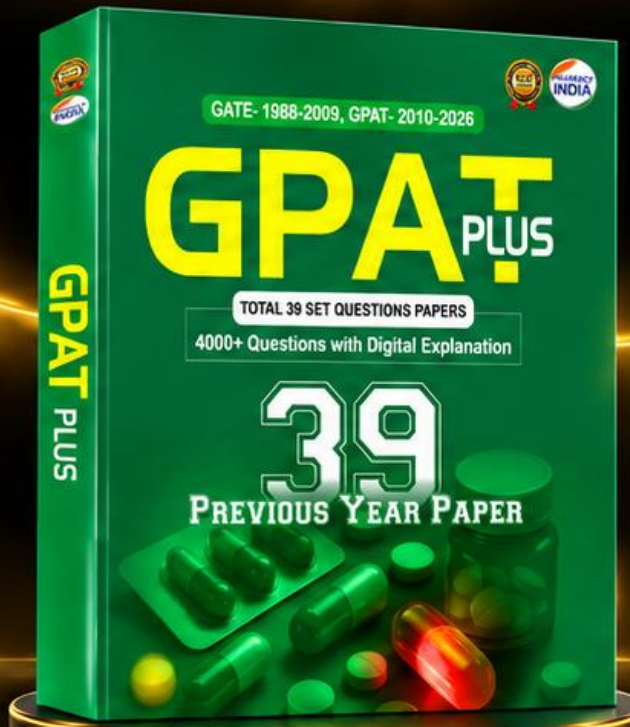


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# के साथ.....

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