

SAPONINS.

1. What is the reason of the impossibility of the wild- growing Locoweed plant material industrial harvesting in Ukraine?

A * The species is listed in the Red Book of Ukraine (Europe)

B The species does not grow in Ukraine

C The species is very rare in Ukraine

D The supply of raw material is absent, in Ukraine

E The species grows only in the radionuclear contaminated area

2. Dust of certain kinds of medicinal plant material can irritate mucous membranes during processing, that's why we should take care working with:

A * Rhizomata et radices Polemonii

B Rhizomata Tormentillae

C Radices Araliae

D Rhizomata Bistortae

E Rhizomata et radices Rubiae

3. A pharmacy received a plan for horsetail herb collection. Which horsetail species is officinal, used in medicine and should be collected?

A * Herba Equiseti arvensis

B Herba Equiseti hyemalis

C Herba Equiseti sylvatici

D Herba Equiseti pratensis

E Herba Equiseti palustris

4. Calendula flowers contain triterpenoids, flavonoids, essential oil, carotenoids. The main condition of drying is the temperature:

A * 40-45°C

B Below 40°C

C 50-60°C

D 80-90°C

E The raw material must be used fresh without drying

5. During the commodity research analysis of the raw material it was discovered that it consists of whole inflorescences which have a form of baskets up to 5 cm in capituli, with peduncles up to 3 cm long, ligulate and tubular flowers of an intense orange-yellow colour, poorly fragrant smell, salted-bitter taste. It can be concluded that the raw material is the flowers of:

A * Marigold

B Chamomile

C Hawthorn

D Lily of the Valley

E Linden

6. The MRM received by a pharmacy's storehouse is oval seeds up to 3-5cm in diameter, covered with reddish brown, very shiny skin with a large pale-brown scar where it has been attached to the inside of the seed-vessel. The taste is bitterly astringent, a bit oily, odourless. Specify the MRM:

- A** * Horse chestnut seeds
- B** Nux vomica seeds
- C** Holy thistle seeds
- D** Schizandra seeds
- E** Flax seeds

7. The MRM with such characteristics is received for analysis: parts of cylindrical roots of different length covered with longitudinally wrinkled cork. Cleared raw material is of light-yellow to brown-yellow colour, light-yellow at fracture, very fibred. Taste is very sweet, slightly irritating. Specify the analyzed MRM:

- A** * Radices Glycyrrhizae
- B** Radices Taraxaci
- C** Radices Berberidis
- D** Radices Araliae mandshuricae
- E** Radices Ginseng

8. Various medicinal forms are produced on the basis of licorice roots – pills, powders, syrups, medicinal tea, but a medical form – injection solution – is not made. Licorice roots show haemolytic properties due to such active agents as:

- A** * Saponins
- B** Alkaloids
- C** Essential oils
- D** Iridoids
- E** Polysaccharides

9. Specify medicinal plant material which has tonic action, and contains triterpenoid saponins:

- A** * Ginseng roots
- B** Licorice roots
- C** Eleuthero roots
- D** Marshmallow roots
- E** Burdock roots

10. Medicine “Polisponin” is used for atherosclerosis treatment. What group of biologically active compounds is responsible for its pharmacological activity?

- A** * Steroidal saponins
- B** Triterpenoidal saponins

- C* Isoquinoline alkaloids
- D* Cardiac glycosides
- E* Tropane alkaloids

11. Some saponins show diuretic action. Which medicinal plant contains this group of biologically active substances?

- A* * Indian Java tea
- B* Licorice
- C* Great valerian
- D* Ginseng
- E* Chestnut

12. To identify medicinal plant material pharmacist-analyst prepared water extract and shook the test tube intensively; stable and abundant foam appeared. Which biologically active substances were present in the raw material?

- A* * Saponins
- B* Tannins
- C* Alkaloids
- D* Derivatives of anthracene
- E* Fatty oil

13. Great valerian rhizome and roots contain saponins. Which method of analysis is used to determine the saponins content?

- A* * Foam index
- B* Acid value
- C* Ester value
- D* Iodine value
- E* Saponification value

14. Steroidal saponins are used for obtaining hormonal medicines. The source of such plant material is:

- A* * Rhizomata cum radicibus Dioscoreae
- B* Rhizomata et radices Valerianae
- C* Rhizomata cum radicibus Veratri
- D* Rhizomata cum radicibus Primulae
- E* Radices Symphyti

15. Specify medicinal raw material which is the source of semisynthetic corticosteroid hormones:

- A* * Fresh Agave leaves
- B* Fresh Aloë leaves
- C* Common rue herb
- D* Strophanthus seed

E Holy thistle seed

16. Plant medicine «Aescusan» has venous tonic action, decreases capillary permeability and improves microcirculation in vessels. Choose the medicinal raw material for this medicine's production:

A * Common horse-chestnut

B Yellow melilot

C Common horstail (*Equisetum*)

D Buckwheat

E Tillet

17. What kind of medicinal raw material is used to obtain medicine «Aescusan» with venous tonic activity?

A * Semina Hippocastani

B Herba Meliloti

C Fructus Ammi majoris

D Fructus Pastinacae sativae

E Fructus Dauci carotae

18. Medicines from Common horse-chestnut leaves and seeds are used in case of venous insufficiency. The quality of Common horse-chestnut seed is characterized by the content of:

A * Aescin

B Aesculetin

C Glycyrrhizine

D Erihrozide

E Erysimosid

19. Choose a medicine from Japanese angelica tree (*Aralia*) roots which is used for asthenia and neurosis treatment:

A * Saparal

B Glyciram

C Phytolysin

D Cortisone

E Polisponin

20. A patient appealed to the pharmacy for treatment of the long-term unhealed skin burn. What phytomedicine can be recommended in this case:

A * Calendula flower

B Hawthorn fruit

C Motherwort herb

D Lily-of-the-valley herb

E Valerian rhizome with roots

21. Preparations produced from eleutherococcus roots and rhizomes are administered as a tonic and adaptogenic drug. If these preparations cannot be found in a pharmacy, they can be substituted by the analogous preparations produced from the following plant material:

- A** * Ginseng roots
- B** Elecampane roots
- C** Rhizomes and roots of valerian
- D** Polemonium roots
- E** Calamus roots

22. A patient appealed to the pharmacy's phytodepartment with a request to give him diuretic medicine. Which medicinal plant material is it better to use?

- A** * Herba Equiseti arvensis
- B** Fructus Sophorae japonicae
- C** Herba Leonuri quinquelobati
- D** Cormus Ledi palustris
- E** Radix Araliae

23. Medicines of Ginseng roots have restorative, adaptogenic effects, improve mental and physical activity. If the tincture of Ginseng is absent in a pharmacy it is possible to replace it by medicines, which contain similar biologically active substances:

- A** * Radices Araliae
- B** Radices Valerianae
- C** Radices Inulae
- D** Radices Ononidis
- E** Radices Rhei

24. If adaptogenic medicines from Ginseng roots are absent in the pharmacy it is possible to replace it by medicines from:

- A** * Eleutherococcus senticosus
- B** Orthosiphon stamineus
- C** Glycyrrhiza glabra
- D** Polygala senega
- E** Astragalus dasyanthus

25. Jacob's ladder rhizomes (Great valerian rhizome) and roots are used as expectorant and sedative. They are offered as substitute of the imported raw material:

- A** * Seneca snakeroot
- B** Aralia
- C** Ginseng
- D** Locoweed
- E** Devil's-club

26. Java tea is used for kidney diseases treatment. What is the raw material of this plant?

A *Leaves

B Inflorescences

C Herb

D Roots

E Flowers

27. Drug plant *Dioscorea nipponica* is the starting materials for the production of Polysponinum drug which is used in the complex treatment of atherosclerosis. Specify the active compounds of dioscorea:

A * Steroid saponins

B Alkaloids

C Essential oil

D Cardiac glycosides

E Triterpene saponins

28. What medicinal plant has antiinflammatory and expectorant properties due to its content of triterpene saponins?

A * *Glycyrrhiza glabra*

B *Panax ginseng*

C *Orthosiphon stamineus*

D *Astragalus dasyanthus*

E *Aralia mandshurica*

29. Preparations of *Panax* roots have tonic and adaptogenic properties and improve mental and physical working ability. If there is no *Panax* tincture in the pharmacy, it can be substituted with preparations of:

A * *Araliae mandshuricae radices*

B *Taxaxaci radices*

C *Glycyrrhizae radices*

D *Tormentillae radices*

E *Calami radices*

30. What medicinal plant has antiinflammatory and expectorant properties due to its content of triterpene saponins?

A * *Glycyrrhiza glabra*

B *Panax ginseng*

C *Aralia mandshurica*

D *Astragalus dasyanthus*

E Orthosiphon stamineus

31. During processing, drying and refinement of herbal raw materials containing saponins, the dust particles can cause mucosal irritation. Therefore, precautionary measures should be taken when working with:

A * Rhizoma et radices Polemonii

B Rhizomata Tormentillae

C Rhizomata et radices Rubiae

D Radices Araliae

E Rhizomata Bistortae