KROK-2 QUESTIONS

POLYSACCHARIDES
LIPIDS
VITAMINS

POLYSACCHARIDES

Inulin increases bifidobacterium level. That is why in the case of dysbacteriosis it is possible to recommend the remedy, which is made from:

- **A*** **Dandelion root**
- **B** Marshmallow root
- **C** Ginseng root
- **D** Valerian root
- **E** Plantain root

Sources of inulin:

- **Dandelion** – Taraxacum officinale
- **Elecampane** – Inula helenium
- **Echinacea** – Echinacea purpurea
- **Chicory** – Cichorium intybus

Polysaccharide inulin increases level of bifidobacteria, that' why it's recommended for treatment of diabetes. In this case are use preparations from:

A* Chicory roots

B Licorice roots

C Ginseng roots

D Valerian roots

E Sweetflag rhizomes

POLYSACCHARIDES

- A consignment of herbal raw material was entered in a pharmacy without an analytical certificate. After macroscopic analysis it was established that it was chicory roots. A reaction was conducted. The reaction with α-naphtol showed a positive result that confirmed presence of:
- **A* Inulin**
- B Cellulose
- C Starch
- D Mucilages
- E Saponins

Inulin which is present in the underground organs of *Asteraceae* plants (common dandelion, elecampane, chicory) is prescribed to treat diabetes and for the level of bifidobacteria increasing . By its chemical structure it belongs to:

A* Polysaccharides

B Vitamins

C Lipids

D Proteins

E Lipoids

POLYSACCHARIDES

- **Inulin** is used as a glomerulafitlration agent. To **identify** it in herbal drugs the following test is recommended:
- A* Molish's test
- **B** Cyanidine test
- **C** Test with sodium hydroxide
- **D** Test with ferric chloride
- **E** Test with conc. HCl

Elecampane rhizomes and roots contain essential oil and polysaccharides. Qualitative reactions with **α-naphtol and concentrated sulfate acid** confirm presence of:

A* Inulin
D Starch
C Tannins
D Flavonoids
E Phospholipids

Rhizomes with the roots of **elecampane** accumulate essential oils and polysaccharides. Test with **α-naphtol and conc. sulphuric acid** confirms the content of:

A* Inulin
B Starch
C Tannic matters
D Flavonoids
E Phospholipids

POLYSACCHARIDES

- When making microscopic analysis of medicinal herbal drugs the following diagnostic features were established: the large parenchymal cells, **inulin-containing** parenchyma cells, expressive line of cambium; large vessels; **schizogenous receptacles** with essential oil. What conclusion will pharmacist make?

A* Rhizomata et radices Inulae

B Rhizomata et radices Rubiae

C Rhizomata cum radicibus Valerianae

D Radices Taraxaci

E Radices Ononidis

A pharmaceutical enterprise (factory) received herbal raw material of **coneflower** rhizomes for making tincture. What effect does this medicine have?

A* Immunomodulation

B Expectorant

C Purgative

D Cardiotonic

E Enterosorbic

- **Coneflower = Echinacea** – *Echinacea purpurea*

POLYSACCHARIDES

- At manufacturing **tablets** as binding agent and **excipient** biological substances from polysaccharides are used. What compounds are the most suitable for this purpose:
- **A* Starch**
- **B** Pectins
- **C** Gum
- **D** Mucilages
- **E** Inulin

Which compound turns **dark blue** at adding **iodine solution**?

A* Amylose

B Glucose

C Lactose

D Cellulose

E Saccharose

- **Starch = Amylum**

POLYSACCHARIDES

- Making anatomical analysis of marshmallow root it is necessary to determine **starch** in the parenchymal cells. Which **reagent** is used in this situation?
- **A* Iodine solution**
- **B** Ammonium hydroxide
- **C** Conc. sulphuric acid
- **D** Sodium hydroxide
- **E** Iron chloride

At microscopic analysis of Marshmallow root it's necessary to determine the content of **starch** grains. What **reagent** permits to do this?

A* Lugol's solution

B Ammonium hydroxide

C Concentrated sulfuric acid

D α-Naphthol alcoholic solution

E Thymol solution

- **Lugol's solution = I2 in KI**

POLYSACCHARIDES

- The main active substances of **marshmallow** are **mucilage** and **pectins**. What class of biological active substances do they belong to?
- **A* Polysaccharides**
- **B** Vitamins
- **C** Flavonoids
- **D** Lignans
- **E** Coumarins

For treatment of respiratory tracts we use **mucilage-containing** herbal drugs. The source of this class of compounds is:

A* Radix Althaeae

B Radix Inulae

C Radix Ipecacuanhae

D Radix Rhodiolae

E Radix Belladonnae

Marshmallow root = Althaeae radix

POLYSACCHARIDES

A consignment of herbal raw material was received by pharmacy without an analytical certificate. According to macroscopic analysis it was **marshmallow** roots. A reaction with **5 % alkali solution** gave a positive result that confirmed presence:

A* Mucilage

B Gum

C Starch

D Pectin

E Cellulose

Making anatomical analysis of **marshmallow** roots it is necessary to determine **mucilage** in the parenchymal cells. Which reagent is used in this situation?

A* sodium hydroxide

B Iodine solution

C Conc. sulphuric acid

D α-Naphtol alcohol solution

E Thymol solution

POLYSACCHARIDES

Marshmallow root contains mucilage and is used as mucolytic agent. To determine the **mucilage content** European Pharmacopoeia recommends using the following method:

A* Swelling index

B Iodine index

C Acid value

D Saponification value

E Hydroxyl value

Flaxseed contains **mucilage** and is used as demulcent agent. To determine the **mucilage content** European Pharmacopoeia recommends using the following method:

A* Swelling index

B Iodine index

C Acid value

D Saponification value

E Hydroxyl value

POLYSACCHARIDES

Choose a reagent for **histochemical** reaction for **mucilage**:

A* Methylene blue alcohol solution

B 1% solution of phloroglucinol

C 1% iron alum solution

D Solution of Sudan III

E Dragendorff's reagent

The pharmacist has prepared the **infusion** of **Marshmallow** roots. Specify the correct version of technology:

A* Cold infusion for 30 min and filtering without pressing raw materials

B Press raw material after infusion at room temperature

C Heating for 30 min, filtering without cooling

D Heating on boiling water bath for 15 minutes, cooling for 45 min, filtering

E Heating for 30 minutes, cool - 10 min, filtering

POLYSACCHARIDES

- Phytochemicals from **marshmallow** are used as anti-tussives. During the collection of marshmallow it possible to dig out the following **adulterant**:
- **A* Lavatera thuringiaca**
- **B** Plantago lanceolata
- **C** Tanacetum vulgare
- **D** Cichorium intybus
- **E** Taraxacum officinale

Preparations of **marshmallow** roots are used in the treatment of upper respiratory tract diseases. During collection it is possible to get an **admixture**:

A* Lavatera

B Common plantain

C Common tansy

D Blue dandelion

E Common dandelion

POLYSACCHARIDES

Marshmallow roots are used as expectorant agent and should be **collected**:

A* After ripening of seed and dying of herbal (aerial) part

B In autumn after frosts

C In autumn before frosts

D In the phase of stem forming

E In flowering time

In accordance with GMP the **underground organs** of medical plants should be **collected**:

A* After ripening of seed and dying of herbal part

B In the phase of flowering

C In the phase of fruitage

D In the phase of bud-forming

E In the phase of stem forming

POLYSACCHARIDES

- **Marshmallow** roots contain from 10 to 20% of **polysaccharides**. The main peculiarity of **drying** is the temperature which must be:
- **A* 45-60 °C**
- **B** 10-15 °C
- **C** 80-90 °C
- **D** 100-120 °C
- **E** 85-95 °C

Marshmallow roots are used as expectorant agent and should be **collected**:

A* After ripening of seed and dying of herbal (aerial) part

B In autumn after frosts

C In autumn before frosts

D In the phase of stem forming

E In flowering time

POLYSACCHARIDES

- As a rule **underground organs** usually should be collected:
- **A* At the end of the vegetation,**
- **B** At the fruitage time
- **C** At the flowering time
- **D** At the bud-forming time
- **E** At the beginning of the ripening of the fruits

In accordance with GMP the **underground organs** of medical plants should be **collected**:

A* After ripening of seed and dying of herbal part

B In the phase of flowering

C In the phase of fruitage

D In the phase of bud-forming

E In the phase of stem forming

POLYSACCHARIDES

Plantain leaves are used to treat respiratory disorders and gastritis. Pharmacological effect is due to:

A* Content of mucilage

B Content of flavonoids

C Content of tannins

D Content of anthraquinones

E Content of volatile oil

Remedies from **polysaccharide-containing** medicinal plant material are used as expectorants. Which of the next plants contains polysaccharides?

A* Common plantain

B Hellebore

C Java tea

D Motherwort

E Nettle

POLYSACCHARIDES

A party of common **plantain** raw material was received by a pharmacy's storehouse. The **content** of what active substances is a sign of authenticity according to the **Pharmacopoeial requirements**?

A* Polysaccharides

B Flavonoids

C Tannins

D Anthraquinones

E Extracted substances

Pharmaceutical laboratory got a parcel of **plantain** leaves. What is the main **Pharmacopoeial requirement** of quality for these herbal drugs?

A* Content of carbohydrates

B Content of flavonoids

C Content of tannins

D Content of anthraquinones

E Content of volatile oil

POLYSACCHARIDES

- Ukrainian medicine "**Plantaglucid**", which used to treat gastritis, gastric ulcer and duodenal ulcer, is the sum of **polysaccharides** of medicinal plant material:
- **A* Common plantain leaves**
- **B** Foalfoot leaves
- **C** Kelp
- **D** Hawthorn fruit
- **E** Chicory roots

Plantaglucid, which is used as antiulcerous medicine, is received from the **common plantain** leaves. What class of compounds is quantitatively defined?

A* Polysaccharides

B Vitamins

C Iridoids

D Terpenes

E Carotenoids

POLYSACCHARIDES

- Medicines of plants from **Plantago** genus are used widely in medical practice. What plant is **cultivated** for that purpose:
- **A* Plantago psyllium**
- **B** Plantago media
- **C** Plantago lanceolata
- **D** Plantago stepposa
- **E** Plantago maxima

Most types of raw materials are kept dry. For handling for **juice** production **fresh raw material** is obtained from:

A* Plantago major

B Althaea officinalis

C Rosa canina

D Urtica dioïca

E Capsella bursa-pastoris

POLYSACCHARIDES

Common plantain leaves are procured in summer. They are cut by knife, sickle or mowed. One developed plant per one square meter should obligatory been left. Specify the period of vegetation for **procurement (collection)** of this raw material:

A* In the period of flowering

B In the bud period

C Decumbent crown formation

D In the period of beginning of fruiting

E In the period of ripe fruiting

Foalfoot (Coltsfoot) leaves are used as expectorant. This raw material should be **harvested**:

A* After flowering

B During flowering

C Before flowering

D During fruiting

E At the beginning of fruiting

Foalfoot = Coltsfoot=Tussilago farfara

POLYSACCHARIDES

Phytochemicals from **coltsfoot** are used as anti-tussives. During the collection of coltsfoot it possible to harvest the following **adulterant**:

A* Arctium lappa

B Plantago lanceolata

C Lavatera thuringiaca

D Cichorium intybus

E Taraxacum officinale

During an instruction for collection of **coltsfoot** leaves it is necessary to pay attention to possible **adulterant** as:

A* Cotton burdock leaves (Burdock)

B Common plantain leaves

C Common nettle leaves

D Marshmallow leaves

E Cowslip primrose leaves

POLYSACCHARIDES

Flowers with characteristic odor were received for analysis. The flowerheads had diameter 5 cm, a **wrapper (involucre)** was **grey-green**, a receptacle was slightly protuberant, **regional** ligulate **florets** with curved shot puberulent tube and a three-teeth limb, **red-orange colour**. The center of the flowerhead bore tubular florets with five-teeth **yellow corolla**. What plant does this characteristic correspond to?

A* Tussilago farfara

B Matricaria chamomilla

C Calendula officinalis

D Saponaria officinalis

E Tanacetum vulgare

POLYSACCHARIDES

Tragacanth gum is used in the production of emulsions, tablets, pills, and also in perfumery and cosmetics industry. It is produced from plants of the genus:

A* Astragalus (locoweed)

B Apricot

C Plum

D Aloe

E Cranberry

Thalli Laminariae contain mucilage and pectin and are used as absorbent of GIT, but they are also recommended for treating **thyroid gland** because of:

A* Iodine content

B Anthraquinones content

C Flavonoid content

D Coumarin content

E Tannin content

LIPIDS

- **Almond oil** belongs to the **non-drying** type of fatty oils. To determine the type of fatty oil European Pharmacopoeia recommends the following assay:
- **A* Iodine value**
- **B** Acid value
- **C** Saponification value
- **D** Swelling index
- **E** Hydroxyl value

Flaxseed (Linseed) oil (Oleum Lini) belongs to the **drying** type of fatty oils. To determine the type of fatty oil European Pharmacopoeia recommends the following assay:

A* Iodine value

B Acid value

C Saponification value

D Swelling index

E Hydroxyl value

LIPIDS

In order to establish **purity** a drop of lavender **essential oil** is put on the filter paper and heated in a stream of warm air. In a while the diameter of spot increases. What **impurity** is present in the lavender oil?

A* Fat or mineral oil
B Phenol
C Ethanol
D Acetone
E Diethyl ether

During the determination of **quality** of peppermint **essential oil** a pharmacist-analyst checked its solubility in 70% alcohol. It is marked, that this oil dissolved not fully (a few drops settled on the bottom of test tube), it testifies about **admixtures** of:

A* Fatty oils
B Water
C Carotenoids
D Resins
E Hydrocarbons

LIPIDS

A **fatty oil** containing unsaturated fatty acids is used for the **prophylaxis of atherosclerosis**. Specify the medicinal raw material containing this oil:

A* Linseed

B Wild fennel seed

C Dill fruit

D Chokeberry fruit

E Hawthorn fruit

Phospholipids of **Soya** bean produce **hepatoprotective** effect. Which other phytochemical has the same effect:

A* Semina Sylibi (Holy Thistle seeds)

B Fructus Rhamni catharticae

C Fructus Ribis nigri

D Fructus Sambuci

E Fructus Crataegi

LIPIDS

A fatty oil containing **unsaturated fatty acids** is used for the **prophylaxis of atherosclerosis**. Specify the medicinal raw material, which contains the oil:

A* Pumpkin seed
B Psyllium seed
C Common horse-chestnut seed
D Parsnip fruit
E Scurfy pea fruit

A fatty oil which contains the **unsaturated fatty acids** is used for the **prophylaxis of atherosclerosis** as food supplements. Specify such biologically active supplement:

A* Peponen
B Chophytol
C Slankufit
D Vitapectin
E Elamin

Pumpkin = Cucurbita pepo

LIPIDS

Which herbal drug **can't be tasted** when you are carrying out phytochemical analysis?

A* Bitter almond

B Flaxseed

C Psyllium seed

D Hawthorn berry

E Dog-rose fruit

Which herbal drug **can't be tasted** when you are carrying out phytochemical analysis?

A* Castor bean

B Flaxseed

C Psyllium seed

D Hawthorn berry

E Dog-rose fruit

LIPIDS

In the case of **constipation** a pharmacist may recommend the following phytoremedy:

A* Castor oil

B Almond oil

C Peach oil

D Sunflower oil

E Corn oil

A patient with **poisoning by fat soluble compound** was delivered to the hospital. What laxative medicine is **contraindicated** in this case?

A* Castor oil

B Magnesium sulfate

C Bisacodyl

D Buckthorn bark

E Isaphenin

VITAMINS

The term "**vitamin**" was introduced in:

A* 1912 by Funk

B 1899 by Pirogov

C 1910 by Pavlov

D 1905 by Carl Linnaeus

E 1907 by Oparin

Which of the offered **vitamins classifications** is the **most rational**?

A* Related to the chemical structure

B Literal

C Related to the solubility

D Related to the morphological signs

E Related to the genus belonging

VITAMINS

The term "**vitamin**" was introduced in:

A* 1912 by Funk

B 1899 by Pirogov

C 1910 by Pavlov

D 1905 by Carl Linnaeus

E 1907 by Oparin

Which of the offered **vitamins classifications** is the **most rational**?

A* Related to the chemical structure

B Literal

C Related to the solubility

D Related to the morphological signs

E Related to the genus belonging

VITAMINS

Pharmacological effect of **Shepherd's purse** extract is due to:

A* Phylloquinone content (Vitamin K)

B Flavonoid content

C Coumarin content

D Tannin content

E Anthraquinone content

A possible **adulteration** to the **nettle leaves** is:

A* White dead-nettle (deadnettle, suck-bottle)

B Primrose a spring

C Lily-of-the-valley

D Barberry

E Strawberry

VITAMINS

In **spring** many patients are suffering from **avitaminosis**. What herbal drug can pharmacist recommend at this case?

A* Folium Urticae

B Folium Althaeae

C Folium Menthae

D Folium Farfarae

E Folium Salviae

Urtica dioica could be used as:

A* Antihemorragic, diuretic and health-improving agent

B Granulating

C Cholagogue

D Stimulative

E Hepatoprotective

VITAMINS

Plant medicine "**Allochol**" is used as a cholagogue. This medicine contains:

A* Extract of Nettle leaves

B Extract of Peppermint leaves

C Extract of Sage leaves

D Extract of Belladonna leaves

E Extract of Henbane leaves

When analyzing the **nettle** leaf powder pharmacist have to pay attention to the one of main **microscopical** feature:

A* Cystolyths

B Secretory vessels

C Oil glands

D Star-like trichome

E Gland with brown content

VITAMINS

At analyzing the plant material such signs were detected: the epidermal cells are polygonal, anomocytic stomatal apparatus, **cystoliths**, stinging, capitate and **retortshaped hairs**. Specify the diagnosted MRM:

A* The nettle leaves

B The jimson weed leaves

C The bitter trefoil leaves

D The rusty foxglove leaves

E The peppermint leaves

The medicinal herbal tea contains: Cortex Frangulae, Folia Urticae, Herba Millefolii. By which characteristic the medicinal plant material **Folia Urticae** can be identified microscopically?

A* Capitate, retortshaped and stinging hairs; cystolyths; vessels of leading bunch of vein; druses of calcium oxalate

B Bast fibres, tracheids, starch, vessels

C T-shaped hairs at the margin

D Multiended (stellate), simple and Y-shaped hairs

E Simple capitate hairs

VITAMINS

Galenic medicines of a raw material, which contain **vitamins**, oxycinnamic acids, coumarins, have a pronounced **anti-hemorrhagic effect** and stimulate uterine contractions. Which raw material is used for production of such medicines?

A* The shepherd's-purse herb

B The dog rose fruits

C The Marigold flowers

D The sea-buckthorn fruits

E The European mountain ash fruits

At analyzing the plant material such signs were detected: wavy epidermal cells, anisocytic stomatal apparatus, **branched hairs with 3, 6 rarer 7 ends**, with coarse wartylike surface. Specify the diagnosted MRM:

A* Folium Bursae pastoris

B Folium Salviae officinalis

C Folium Urticae dioïcae

D Folium Menthae piperitae

E Folium Vitis idaeae

VITAMINS

A doctor advised to take an extract of the **shepherd's-purse herb** to stop uterine bleeding. Specify the characteristic microscopic indications of the shepherd's-purse leaves:

A* Multiended (stellate), simple and Y-shaped hairs

B Thin-walled and thick-walled hairs, excretory channel

C Bundled hairs, druses of calcium oxalate, glands

D Capitate, retortshaped and stinging hairs, cystoliths, vascular bundles of the nervature

E T-shaped hairs at the leaf margin

During the commodity research analysis of the raw material it was discovered that it consists of herb with flat **triangular pods** with two narrow partitions, which remind a "**purse**" or "**balalaika**" by its shape. It can be concluded that the plant material is:

A* Shepherd's-purse herb

B Spring Adonis herb

C Lily-of-the-Valley herb

D Yellow hornpoppy herb

E Dog rose fruit

VITAMINS

When analyzing the herbal drug it was established that: A notable feature of the cut drug is the entire or fragmentary triangular obcordate, flattened, green to light yellow long-pedicellate **pods**, which are septate at the narrowest point and have keeled valves. There are also numerous brownish red seeds; small clumps of greenish – white; much shriveled inflorescences; light green, round or angular pieces of stem with fine longitudal striations; and fragments of leaves. **Odour** faint and **unpleasant**, **taste** some how acrid and **bitter**. What conclusion will pharmacist make?

A* Herba Bursae pastoris

B Herba Althaeae

C Herba Leonuri

D Herba Polygoni persicariae

E Herba Bidentis tripartitae

VITAMINS

Which acid is called **vitamin C**?

A* Ascorbic acid

B Barbituric acid

C Nicotinic acid

D Folic acid

E Picolinic acid

Pharmacopoeia recommends carrying out standardization of dog rose fruit *Fructus **Rosae caninae*** with reference into content of:

A* Ascorbic acid

B Coumarins

C Fatty oils

D Carotenoids

E Flavonoids

Dog rose = *Rosa canina*

Cinnamon rose = *Rosa cinnamomea*

VITAMINS

Patient is suffering from **avitaminosis C**. Physician prescribed the course of phytoterapy. Which herbal drug is rich in **vitamin C**?

A* Fructus Rosae
B Cortex Quercus
C Rhizoma Tormentillae
D Cortex Viburni opuli
E Folium Menthae piperitae

It is recommended to use vitamin drugs in spring. What is the raw material for manufacturing **vitamin C** containing phytomedicines?

A* Fructus Rosae
B Flores Calendulae
C Folia Digitalis
D Fructus Foeniculi
E Radices Glycyrrhizae

VITAMINS

A pharmacy warehouse received a consignment of **cinnamon rose**. What compound determines the quality of raw material?

A* Ascorbic acid

B Tannins

C Anthracene derivatives

D Essential oils

E Coumarins

A party of the MRM of **cinnamon rose** was received by a pharmacy's storehouse. The content of what active substances, according to the Pharmacopoeia requirements, should be analyzed:

A* Ascorbic acid

B Flavonoids

C Tannins

D Anthraquinones

E Essential oil

VITAMINS

Pharmaceutical laboratory received a parcel of **dog rose fruits**. What is the main Pharmacopoeia's requirement of quality of these herbal drugs?

A* Content of ascorbic acid

B Content of flavonoids

C Content of tannins

D Content of anthraquinones

E Content of volatile oil

According to the pharmacopoeia article for determining the **quantitative content of ascorbic acid** in fruits hips the following method is used:

A* Titrimetric method

B Colorimetric method

C Weight

D Chromato-spectrofotometric

E Polarographic method

VITAMINS

Medicine «**Lipochromin**» is used for:

A* Prophylaxis and treatment of radiation illness

B Prophylaxis and treatment of atherosclerosis

C Prophylaxis and treatment of immune system diseases

D Prophylaxis of avitaminosis

E Treatments of hypervitaminosis

A few medicines with a different effects on the basis of **Dog rose fruit** are manufactured. Name the medicine on the basis of this medicinal raw material with reparative action:

A* Carotolin

B Cholosas

C Arphasetin

D Syrup of dog rose with iron

E Flavin

VITAMINS

Dog rose fruits contain a lot of **ascorbic acid**. What temperature should this raw material be dried?

A* 80–90°C

B To 40°C

C 40–45°C

D 50–60°C

E The raw material must be used without drying in a fresh state

The analysis of **dog rose** fruits showed its **humidity**. What must a pharmacist do in this case:

A* To dry raw material

B To reject raw material

C To return to the supplier

D To send to storage

E To send to a factory

VITAMINS

The quality of herbal raw material depends on the period of harvesting. Specify the correct period of **harvesting (collection)** the fruits of **dog rose**:

A* In autumn, before the first frosts

B Early spring

C Late spring

D In summer

E In autumn, after the first autumn frosts

When analyzing the herbal drug it was established that it consists of fragments of the fleshy hollow urceolate receptacle, bearing the remains of the reduced sepals, light pink to **orange-pink**, the convex surface shiny and strongly wrinkled; bearing on its lighter inner surface abundant **bristle-like hairs**. What conclusion will pharmacist make?

A* **Fructus Rosae**

B Fructus Ribis nigri

C Fructus Sorbi

D Fructus Crataegi

E Fructus Hippophaës

VITAMINS

At the receipt of raw material to a **vitamin factory** it is discovered that it contains of wrinkled **red-orange fruits** of sour sweet, slightly astringent taste, up to 3 cm long and up to 1.5 cm in diameter. The fruit contains a lot of shallow, hard, angular yellow nuts. Nuts and the inner surface of fruits are thicky covered with **long, hard, setaceous hairs**. It was concluded that the raw material belongs to:

- **A* The dog rose fruits**
- **B** The mountain ash fruits
- **C** The High cranberry fruits
- **D** The sea-buckthorn fruits
- **E** The blackcurrant fruits

Plant material received by pharmacy warehouse is smooth bright **red fruits**, oblong-oval shape, with pentagonal area on an apex. Calyx is absent. The walls of fruit are .solid, fragile, an external surface is bright, wrinkled, inner surface – dull. Inside fruit – a lot of small **seeds, with long hard hair**. Taste is acidulous - sweet; smell is absent. Choose this raw material.

A* Fructus Rosae caninae

B Fructus Crataegi

C Fructus Sorbi

D Fructus Aroniae

E Fructus Viburni

VITAMINS

- 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 diameter, with peduncules up to 3 cm long, ligulae and tubular flowers of a more **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

Commercial drug consist of the entire or partly broken-up **flower- heads** (diameter 5-7cm) of double varieties with numerous ligulate flowers and free tubular flowers and of individual florets free of receptacle and involucral bracts. The **yellowish red** shiny, female ligulate florets are characteristics, they are 20-30 mm long and 5-7 mm broad and they readily tade on keeping. What conclusion will pharmacist make?

A* Flores Calendulae

B Flores Althaeae

C Flores Sorbi

D Flores Crataegi

E Flores Chamomillae

VITAMINS

Calendula (**Marigold**) flowers contain triterpenoids, flavonoids, essential oils, carotenoids. The main condition of drying is the temperature:

A* 40-45°C

B To 40°C

C 50-60°C

D 80-90°C

E The raw material must be used fresh without drying

Patient asks in pharmacy to recommend some phytochemicals to treat prolonged **non-healing burn of skin**. Which herbal **repairing remedy** may you propose in this case?

A* Marigold flowers

B Hawthorn flowers

C Motherwort flowers

D Lily-of-the-valley flowers

E Nettle flowers

VITAMINS

- 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

Calendula flower remedy is used as **repairing** agent. Which herbal drug may you replace if it is absent?

A* Aloë leaf

B Marshmallow leaf

C Ginkgo leaf

D Motherwort leaf

E Dog-rose fruits

VITAMINS

Some types of the MRM contain **carotenoids**. Specify the MRM with high content of carotenoids and which is used in the phytoremedies manufacture:

A* The sea-buckthorn fruits

B The black currant leaves

C The shepherd's purse herb

D The strawberry leaves

E The parsley roots

What is the medicinal plant material of sea-buckthorn?

A* Fructus

B Herba

C Semina

D Folia

E Cortex

VITAMINS

Some types of the MRM contain **carotenoids**. Specify the MRM with high content of carotenoids and which is used in the phytoremedies manufacture:

A* The sea-buckthorn fruits

B The black currant leaves

C The shepherd's purse herb

D The strawberry leaves

E The parsley roots

What is the medicinal plant material of sea-buckthorn?

A* Fructus

B Herba

C Semina

D Folia

E Cortex

VITAMINS

- The MRM rich in **ascorbic acid** should be recommended to prevent flu. Specify the MRM that a pharmacist may recommend in this case:
- **A* Fructus Ribis nigri**
- **B** Fructus Crataegi
- **C** Fructus Aroniae
- **D** Fructus Rhamni catharticae
- **E** Fructus Myrtilli

Ribes nigrum belongs to the family:

A* Grossulariaceae

B Elaeagnaceae

C Asteraceae

D Apiaceae

E Fabaceae

VITAMINS

A doctor prescribed a patient the **raspberry extract** for an acute respiratory disease. The therapeutic effect of raspberries depends on:

A* The presence of salicylic acid

B The content of alkaloids

C The presence of vitamins

D The content of purine alkaloids

E The presence of pectins

To heal an acute respiratory disease a doctor advised a patient to use diaphoretic herbal tea which contains: I **Flores Tiliae** II **Fructus Rubi idaei**. Point out what families the plants of this herbal tea belong to:

A* I Tiliaceae; II Rosaceae

B I Asteraceae; II Eleagnaceae

C I Tiliaceae; II Asteraceae

D I Scrophulariaceae; II Rosaceae

E I Eleagnaceae; II Fabaceae

VITAMINS

Cornsilk, containing vitamins, fatty acids, essential oils, saponins and other substances is used as:

A* Diuretic and choleretic drug

B Sedative and anticonvulsant drug

C Cardiotonic and antiarrhythmic drug

D Expectorant and antitussive drug

E Bactericidal and astringent drug

Which plant is called **Aronia**:

A* Black chokeberry

B Immortelle

C Common tansy

D Pansy

E Hawthorn