

№	krok 2021
Topic	Essential oils
Task	Camomile flowers are a popular medicinal substance in scientific medicine. What plant is the source of this herbal raw material?
Correct answer	<i>Chamomilla recutita</i>
B	<i>Tripleurospermum inodorum</i>
C	<i>Anthemis arvensis</i>
D	<i>Leucanthemum vulgare</i>
E	<i>Anthemis cotula</i>
№	krok 2021
Topic	<i>Polysaccharides</i>
Task	For authentication of a herbal . raw material, several drops of an alcoholic solution of alpha-naphthol and concentrated sulfuric acid were applied to the root section of <i>Cichorium intybus L.</i> It resulted in pink-violet coloring that indicates the presence of the following in the herbal raw material:
Correct answer	Inulin
B	Pectin
C	Fatty oils
D	Slime
E	Essential oils
№	krok 2021
Topic	<i>Polysaccharides</i>
Task	Most types of herbal raw materials 'are stored dry. However, for juice production the factories receive fresh herbal material. Name one such plant that is processed fresh:
Correct answer	<i>Plantago major</i>
B	<i>Capsella bursa-pastoris</i>
C	<i>Althaea officinalis</i>
D	<i>Rosa canina</i>
E	<i>Urtica dioica</i>
№	krok 2021
Topic	<i>Kumarins</i>
Task	Preparations of <i>Panax</i> roots have tonic and adaptogenic properties and improve mental and physical working ability. If there is no <i>Panax</i> tincture in the pharmacy, it can be substituted with preparations of:

Correct answer	<i>Araliae mandshuricae radices</i>
B	<i>Taraxaci radices</i>
C	<i>Tormentillae radices</i>
D	<i>Glycyrrhizae radices</i>
E	<i>Calami radices</i>
№	krok 2021
Topic	Flavonoids
Task	Chemical analysis of <i>Helichrysum</i> flowers shows positive results of the cyanidin test. This reaction indicates the presence of the following class of compounds:
Correct answer	Flavonoids
B	Alkaloids
C	Saponins
D	Coumarins
E	Polysaccharides
№	krok 2021
Topic	Polysaccharides
Task	Microscopy of herbal raw material reveals the following diagnostic characters in the microslide: pseudostratified cork, large parenchyma cells, filled with inulin, clearly visible cambium layer, large vessels, schizogenous cavities with essential oil. These features confirm the authenticity of the following herbal raw material:
Correct answer	<i>Rhizomata et radices Inulae</i>
B	<i>Radices Althaeae</i>
C	<i>Rhizomata et radices Rubiae</i>
D	<i>Radices Ononidis</i>
E	<i>Radices Taraxaci</i>
№	krok 2021
Topic	Antrachinons
Task	A man came to a pharmacy asking for a litholytic and diuretic drug «Marelin». If there is no such drug in the pharmacy, powdered roots and rhizomes of a certain plant can be recommended as a substitute. Name this plant:
Correct answer	<i>Rubia tinctorum</i>
B	<i>Rhodiola rosea</i>
C	<i>Dryopteris filix-mas</i>

D	<i>Valeriana officinalis</i>
E	<i>Sanguisorba officinalis</i>
№	krok 2021
Topic	Tannins
Task	During identification these active substances form precipitates in gelatin and alkaloid solutions and produce precipitates with heavy metal salts. These active substances are:
Correct answer	Tannins
B	Iridoids
C	Carbohydrates
D	Lipids
E	Glycosides
№	krok 2021
Topic	Tannins
Task	Microscopy of transverse section / of a bark sample shows a wide dark red cork layer, lamellar collenchyma, druses, bast fibers with a crystal sheath, and medullary rays. What herbal raw material is it?
Correct answer	Buckthorn bark
B	Birch bark
C	Willow bark
D	Oak bark
E	Ash bark
№	krok 2021
Topic	Essential oils
Task	A pharmacy has received a batch 'of herbal raw material - caraway fruits. What medicinal plant is cultivated for harvesting of this herbal raw material?
Correct answer	<i>Carum carvi</i>
B	<i>Anisum vulgare</i>
C	<i>Anethum graveolens</i>
D	<i>Foeniculum vulgare</i>
E	<i>Coriandrum sativum</i>
№	krok 2021
Topic	Essential oils

Task	Eucalyptus essential oil is used as an Antiseptic. What excretory structures of a leaf accumulate this substance?
Correct answer	Essential oil cavities
B	Glandular «spots»
C	Glandular hairs
D	Secretory cells
E	Essential oil glandules
№	krok 2021
Topic	Essential oils
Task	<i>Origanum vulgare</i> herbal raw material is harvested during the flowering. How is it harvested?
Correct answer	The grass is cut with a knife or sickle at a distance of 20-30 cm from the ground
B	The whole plant is dug up
C	Only the tips of the inflorescences are cut
D	The leaves are plucked with the stem
E	The whole plant with a root is pulled out from the soil
№	krok 2021
Topic	Cardiac glycosides
Task	A pharmaceutical company produces a medicine under the brand name «Corglyconum». What herbal raw material is used in preparation of this drug?
Correct answer	Lily -of-the-valley grass
B	Dandelion roots
C	Plantain leaves
D	Buckthorn bark
E	Wormwood grass
№	krok 2021
Topic	Alkaloids
Task	<i>Berberis vulgaris</i> herbal raw material is a source of medicinal substances with cholagogic and hemostatic effect. What parts of this plant are harvested as a herbal raw material?
Correct answer	Roots and leaves
B	Leaves and flowers
C	Leaves and fruits

D	Leaves and seeds
E	Roots and fruits
№	krok 2021
Topic	Alkaloids
Task	Standardization of a certain herbal raw material is done by calculating its alkaloid content in terms of hyoscyamine. Name this herbal raw material:
Correct answer	<i>Folia Belladonnae</i>
B	<i>Radices Berberidis</i>
C	<i>Herba Chelidonii</i>
D	<i>Herba Thermopsis lanceolatae</i>
E	<i>Fructus Capsici</i>
№	krok 2021
Topic	Flavonoids
Task	The medicinal plants of the <i>Fabaceae</i> family contain various groups of bioactive substances. What representative of this family contains flavonoids and is used as an industrial source of rutin?
Correct answer	<i>Styphnolobium japonicum</i>
B	<i>Glycyrrhiza glabra</i>
C	<i>Thermopsis alterniflora</i>
D	<i>Ononis arvensis</i>
E	<i>Bidens tripartita</i>
№	krok 2021
Topic	essential oils
Task	Bioactive substances of this plant have secretolytic, antispasmodic, antifatulent, and slight diuretic effect. Its essential oil is used in making of gripe water. What plant is it?
Correct answer	<i>Foeniculum vulgare</i>
B	<i>Crataegus sanguinea</i>
C	<i>Tanacetum vulgare</i>
D	<i>Betula pendula</i>
E	<i>Calendula officinalis</i> ,
№	krok 2021
Topic	Saponins

Task	Licorice roots contain saponins. What reaction can prove their presence in the herbal raw material?
Correct answer	Foaming reaction
B	Fehling's test
C	Molisch's test
D	Reaction with iron(III) chloride
E	Dragendorff's test
№	крок 2017-2018
Topic	flavonoids
Task	To determine the authenticity of Japanese Sophora fruits, concentrated hydrochloric acid and magnesium chips were added to the extract. A pink-red color was observed, which indicates the presence of:
Correct answer	flavonoids
B	Tannins
C	coumarins
D	Anthracene derivatives
E	Saponins
№	крок 2017-2018
Topic	quinones
Task	Compliance with the conditions for the procurement of raw materials affects the qualitative and quantitative composition of the active ingredients of the buckthorn brittle, therefore the optimal time for harvesting buckthorn bark is time:
Correct answer	Sap flow
B	Fruiting
C	flowering
D	Leaf fall
E	Rest
№	крок 2017-2018
Topic	flavonoids
Task	Motherwort herb is a source of antihypertensive-sedatives. The harvesting of this plant material should be carried out into account the turnover period, which is:
Correct answer	Once every 5 years
B	Once every 2 years
C	Once every 3 years

D	Once every 10 years
E	every year
№	крок 2017-2018
Topic	tannins
Task	The MPRM is presented for analysis in the form of black shiny drupes with a diameter of 6-8 mm, the stone is large, very strong, spherical, light brown, with one seed, the taste is sweetish, slightly astringent. Such medicinal products should be diagnosed as fruits:
Correct answer	Bird cherry
B	Blueberry
C	chokeberry
D	Joster
E	Hawthorn
№	крок 2017-2018
Topic	MPRM standardization
Task	Indicate what is done with the medicinal product after harvesting it:
Correct answer	Carry out primary processing of raw materials
B	Dry
C	Pack
D	Bring to standard condition
E	Mark
№	крок 2017-2018
Topic	Tannins
Task	The roots of horse sorrel are collected during a certain period of the plant's growing season. Indicate it:
Correct answer	After the withering away of the aboveground part
B	flowering
C	Green Fruiting
D	stalk stem growth
E	Budding
№	крок 2017-2018
Topic	cardioglycosides
Task	Select preparations, the raw material for the manufacture of which is woolly foxglove:
Correct answer	Lantosid

B	Korglikon
C	Digitoxin
D	Adonisid
E	Erizimine
№	крок 2017-2018
Topic	flavonoids
Task	It is known that the herb of the string is used as a diuretic and diaphoretic. The pharmacopoeial species is:
Correct answer	<i>Bidens tripartita</i>
B	<i>Bidens cernua</i>
C	<i>Bidens radiata</i>
D	<i>Bidens frondosa</i>
E	<i>Bidens orientalis</i>
№	крок 2017-2018
Topic	resource science
Task	To determine the stocks of wild-growing RL, you need to know two values - the area of the thicket and its yield. Grass yield of thyme herb is determined by:
Correct answer	By the projective covering method
B	By the method of accounting areas
C	By eye
D	By the method of model instances
E	Geodetic way
№	крок 2017-2018
Topic	quinones
Task	Joster fruits contain anthracene derivatives. Qualitative reactions with:
Correct answer	Iron-ammonium alum
B	Dragendorff's reagent
C	Alkali
D	Ferrous sulfate
E	Fehling's reagent
№	крок 2017-2018
Topic	lipids

Task	Medical oil is the fraction that is obtained by the first hot pressing. To destroy ricin toxalbumin, crushed seeds are pretreated with hot steam. From which plant is this oil obtained by this method?
Correct answer	Common castor oil
B	annual sunflower
C	pumpkin
D	Corn
E	Soybean bristly
№	крок 2017-2018
Topic	tropane alkaloids
Task	Representatives of the Solanaceae family are widely used in medical practice as alkaloids in plants. Which family member is the source for the semi-synthetic production of corticosteroid hormonal drugs?
Correct answer	<i>Solanum laciniatum</i>
B	<i>Atropa belladonna</i>
C	<i>Datura Stramonium</i>
D	<i>Hyoscyamus niger</i>
E	<i>Solanum tuberosum</i>
№	крок 2017-2018
Topic	tropane alkaloids
Task	The standardization of this raw material is carried out according to the content of alkaloids in terms of hyoscyamine. Name this raw material:
Correct answer	<i>Folia Belladonnae</i>
B	<i>Radices Berberidis</i>
C	<i>Herba Chelidonii</i>
D	<i>Herba Thermopsis lanceolatae</i>
E	<i>Fructus Capsici</i>
№	крок 2017-2018
Topic	iridoids
Task	The phytochemical department produces tinctures and thick extracts from rhizomes and roots of valerian, which are part of complex preparations with a sedative effect. Name which group of biologically active compounds the valerian valepotriates belong to: valtrate, acetovaltrate, dihydrovaltrate:
Correct answer	iridoids

B	essential oils
C	alkaloids
D	Polysaccharides
E	Saponins
№	крок 2017-2018
Topic	Saponins
Task	In a sample of the leaves of staminate orthosiphon (kidney tea), the presence of glycosidic derivatives of ursan was found. This sample can be classified as a raw material that contains:
Correct answer	Saponins
B	cardioglycosides
C	cyanoglycosides
D	ecdysteroids
E	Phytosterols
№	крок 2017-2018
Topic	Essential oils
Task	Chamomile flowers contain a blue essential oil, the main component of which is:
Correct answer	Hamazulen
B	Arnifolin
C	Bornilizalerianate
D	Cineol
E	Anetol
№	крок 2017-2018
Topic	flavonoids
Task	Herbs are mainly harvested during the flowering period. An exception is the herb of a string. When is the string grass harvested?
Correct answer	Budding
B	flowering
C	before flowering
D	Fruiting
E	During ripe fruits
№	крок 2017-2018
Topic	lignans and xanthones

Task	Medicinal plant raw materials from which the hepatoprotective drugs "Silibor", "Legalon", "Karsil", "Gepabene" are obtained, are fruits:
Correct answer	<i>Silybum marianum</i>
B	<i>Ammi majus</i>
C	<i>Aronia melanocarpa</i>
D	<i>Sophora japonica</i>
E	<i>Coriandrum sativum</i>
№	крок 2017-2018
Topic	coumarins
Task	The plant contains hydroxycoumarins and is a source of venotonic drugs. Indicate the MP of this plant:
Correct answer	<i>Semina Hippocastani</i>
B	<i>Herba Meliloti</i>
C	<i>Fructus Ammi majoris</i>
D	<i>Fructus Pastinacae sativae</i>
E	<i>Fructus Dauci carotae</i>
№	крок 2017-2018
Topic	cardioglycosides
Task	The drug digoxin is used for chronic heart failure. What medicinal plant contains cardiac glycosides, is the source of this drug?
Correct answer	<i>Digitalis lanata</i>
B	<i>Erysimum canescens</i>
C	<i>Strophanthus kombe</i>
D	<i>Adonis vernalis</i>
E	<i>Convallaria majalis</i>
№	крок 2017-2018
Topic	alkaloids
Task	The drugs vinblastine and vincristine exhibit antitumor activity. Indicate the medicinal product from which they are obtained:
Correct answer	<i>Folia Catharanthi rosei</i>
B	<i>Herba Vincae minoris</i>
C	<i>Rhizomata Nupharis lutei</i>
D	<i>Folia Berberidis</i>
E	<i>Herba Selaginis</i>

№	крок 2017-2018
Topic	Essential oils
Task	The raw material for the production of semi-synthetic camphor is Siberian spruce shoots containing essential oil. Is the essential oil component used to produce semi-synthetic camphor?
Correct answer	Borneol
B	Linalool
C	Menthol
D	Timol
E	Citral
№	крок 2017-2018
Topic	Essential oils
Task	The medicinal product obtained by the pharmacy warehouse is in the form of “cones” with open scales, which are attached to a solid rod with or without fruit. Fruit seeds are light green in color. The smell is fragrant. The taste is bitter. Indicate the plant - the source of medicinal plant raw materials:
Correct answer	Common hops
B	Alder gray
C	common juniper
D	raspberry
E	Olive european
№	крок 2017-2018
Topic	coumarins
Task	The control and analytical laboratory received raw materials from Fructus Pastinacae sativae containing psoralen and angelicin. Name the group of biologically active substances to which they belong:
Correct answer	coumarins
B	Saponins
C	flavonoids
D	Anthracene derivatives
E	tannins
№	крок 2017-2018
Topic	quinones
Task	Aloe liquid extract is made from fresh aloe tree leaves. Indicate the direction of use of this substance:

Correct answer	Biostimulant
B	Diaphoretic
C	expectorant
D	sleeping
E	Astringent
№	крок 2017-2018
Topic	антраценпроизводные
Task	The main active ingredients of senna leaves are senosides A, B, C, D. To what class of biologically active substances do they belong?
Correct answer	Anthracene derivatives
B	Phenolic acids
C	flavonoids
D	iridoids
E	Phenolic glycosides
№	крок 2017-2018
Topic	iridoids
Task	According to the requirements of the State Pharmacopoeia, the identification of medicinal products is carried out using microscopic analysis. For which plant material is the presence of lactic acidae a diagnostic anatomical sign?
Correct answer	dandelion roots
B	marshmallow roots
C	steel roots
D	licorice roots
E	sorrel roots
№	крок 2017-2018
Topic	lipids
Task	Specify which of the following fatty oils is non-drying, since it contains oleic acid glycerides:
Correct answer	<i>Ricini oleum</i>
B	<i>Helianthi oleum</i>
C	<i>Maydis oleum</i>
D	<i>Cucurbitae oleum</i>
E	<i>Lini oleum</i>

№	крок 2017-2018
Topic	tannins
Task	In official medicine, several species of the genus <i>Polygonum</i> are used. The rhizomes of one of them are rich in tannins and are used to treat diarrhea. Indicate this view:
Correct answer	<i>Polygonum bistorta</i>
B	<i>Polygonum hydropiper</i>
C	<i>Polygonum persicaria</i>
D	<i>Polygonum aviculare</i>
E	<i>Polygonum alpinum</i>
№	крок 2017-2018
Topic	Essential oils
Task	Timol is an antiseptic that is used in dental practice. The source of its receipt is essential oil of such a plant:
Correct answer	Thyme common
B	<i>salvia officinalis</i>
C	<i>Eucalyptus globular</i>
D	peppermint
E	Fennel
№	крок 2017-2018
Topic	iridoids
Task	The monograph " <i>Menyanthis trifoliatae folium</i> " in the HFC (Appendix 2) regulates the specific numerical value for this plant, namely:
Correct answer	Bitterness indicator
B	Essential oil content
C	Tannins content
D	Fat oil content
E	Swelling index
№	крок 2017-2018
Topic	alkaloids
Task	Which plant family is characterized by hyoscyamine and scopolamine?
Correct answer	<i>Solanaceae</i>
B	<i>Asteraceae</i>

C	<i>Papaveraceae</i>
D	<i>Apocynaceae</i>
E	<i>Fabaceae</i>
№	крок 2017-2018
Topic	Polysaccharides
Task	The medicinal plant raw materials used for the manufacture of the medicinal product "Plantaglucid", according to the State Pharmaceutical University, are subject to investigation by thin layer chromatography. In this case, a weak blue zone appears on the chromatogram, indicating the presence of:
Correct answer	Aucubin
B	Acoron
C	Acteozide
D	Azulene
E	Atropin
№	крок 2017-2018
Topic	vitamins
Task	Name the medicinal plant material, the dense extract of which is part of the drug allochol, which exhibits a choloretic effect:
Correct answer	<i>Urticae folia</i>
B	<i>Aloes folia</i>
C	<i>Juglandis folia</i>
D	<i>Menthae piperitae folia</i>
E	<i>Agavae folia</i>
№	крок 2017-2018
Topic	tannins
Task	Alder raw materials are the source of Altana production. What medicinal raw materials are procured?
Correct answer	Fertility
B	Rhizomes and roots
C	Bark
D	flower
E	Shoots
№	крок 2017-2018
Topic	quinones

Task	What reaction underlies the spectrophotometric method for the analysis of anthracene derivatives in buckthorn bark?
Correct answer	Formation of phenolates with alkaline ammonia solution
B	Oxidation of anthracene derivatives
C	Recovery of anthraquinone
D	Salt precipitation
E	Sublimation reaction
№	крок 2017-2018
Topic	quinones
Task	In a phytochemical study of buckthorn bark, a reaction with an alkali solution was carried out, as a result of which a red color was observed. What compounds are indicated by the results of the reaction performed?
Correct answer	Anthracene derivatives
B	Saponins
C	alkaloids
D	flavonoids
E	Mucus
№	крок 2017-2018
Topic	alkaloids
Task	An extract is made from the herb of belladonna, which is part of complex preparations with antispasmodic activity. Choose this drug:
Correct answer	Belastezin
B	Olimetin
C	Solutan
D	Urolesan
E	Herbogastrin
№	крок 2017-2018
Topic	chromones
Task	The fruits of visnaga carrot (ammi dental) are used for the production of antispasmodic drugs. What group of substances regulates the quality of this raw material and determines this action?
Correct answer	Furanochromones
B	flavonoids
C	Polysaccharides
D	vitamins

E	lignans
№	крок 2017-2018
Topic	common phenols
Task	Phenol glycosides belong to the class of glycosides. What raw materials contain phenol glycosides?
Correct answer	Lingonberry leaves
B	thyme grass
C	Hay leaves
D	sorrel roots
E	Fruits of mountain ash
№	крок 2017-2018
Topic	flavonoids
Task	Medicinal plant raw materials of sandy immortelle have anti-inflammatory, choleric effect. What is the raw material of this plant?
Correct answer	flower
B	grass
C	rhizoms
D	fruits
E	roots
№	крок 2017-2018
Topic	Anthracene derivatives
Task	Indicate the activity of anthracene derivatives if OH groups are located in both benzene rings of anthraquinone:
Correct answer	Laxative
B	diurethic
C	litolitic
D	sedative
E	Choleric
№	крок 2017-2018
Topic	alkaloids
Task	Datura leaves can cause poisoning during harvesting. What class of biologically active substances causes this effect?
Correct answer	alkaloids
B	tannins
C	Polysaccharides

D	Saponins
E	Essential oils
№	крок 2017-2018
Topic	vitamins
Task	Common mountain ash (<i>Sorbus aucuparia</i>) is used for making vitamin syrups. What raw materials of rowan are used?
Correct answer	fruits
B	bark
C	roots
D	leaves
E	flowers
№	крок 2017-2018
Topic	tannins
Task	Oak bark is widely used in pharmaceutical and medical practice as an astringent and anti-inflammatory agent. In what phase of the growing season are <i>Quercus cortex</i> medicinal plant materials harvested?
Correct answer	Sap flow
B	Fruiting
C	flowering
D	Leaf fall
E	rest
№	крок 2019
Topic	Essential oils
Task	Menthol has an antispasmodic, analgesic effect. Select an MP - a source of menthol:
Correct answer	<i>Folia Menthae piperitae</i>
B	<i>Folia Salviae</i>
C	<i>Folia Betulae</i>
D	<i>Folia Eucalypti</i>
E	<i>Folia Absinthii</i>
№	крок 2019
Topic	essential oils containing sesquiterpenoids
Task	Rhizomes with elecampane roots accumulate essential oil and polysaccharides. Qualitative reaction with α -naphthol and concentrated sulfuric acid confirms the presence of:

Correct answer	Inulin
B	Phospholipids
C	thimol
D	starch
E	menthol
№	крок 2019
Topic	commodity analysis of medicinal plant raw materials
Task	When conducting a commodity analysis, the pharmacist must reject medicinal plant raw materials, provided:
Correct answer	The presence of poisonous plants
B	Excess moisture in raw materials
C	The presence of parts of other non-poisonous plants in the MPRM
D	Infestation by granary pests of the 1st degree
E	The presence of other parts of the target plant in the MPRM
№	крок 2019
Topic	iridoids
Task	Microscopic analysis of the root of the medicinal plant revealed the following signs: parenchyma cells with inulin, lactic acidae, a clear line of cambium. It is concluded that this is the root:
Correct answer	<i>Taraxacum officinalis</i>
B	<i>Inula helenium</i>
C	<i>Scinguisorba officinalis</i>
D	<i>Althaea officinalis</i>
E	<i>Zingiber officinale</i>
№	крок 2019
Topic	Tannins
Task	Industrial raw material for tannin production is MP:
Correct answer	<i>Folium Cotini coggygriae</i>
B	<i>Rhizomata et radix Sanguisorbae</i>
C	<i>Fructus Viburni</i>
D	<i>Rhizomata Bergeniae</i>
E	<i>Rhizomata Bistortae</i>
№	крок 2019

Topic	lignans and xanthenes
Task	What medicinal plant material is used to make the immunostimulating agent "Immunal", which is often used for chronic diseases of the upper respiratory tract?
Correct answer	<i>Herba Echinaceae purpurea</i>
B	<i>Radices Rhei</i>
C	<i>Radices Ginseng</i>
D	<i>Radices Araliae elata</i>
E	<i>Rhizomata et radices Eleuterococci</i>
№	крок 2019
Topic	flavonoids
Task	The herbal preparation Silibor is used as a hepatoprotective agent. The source for obtaining this drug are:
Correct answer	<i>Semina Sylibi</i>
B	<i>Herba Equiseti arvensis</i>
C	<i>Flores Centaureae cyani</i>
D	<i>Flores Crataegi</i>
E	<i>Flores Tanacetii</i>
№	крок 2019
Topic	flavonoids
Task	To determine the authenticity of Fructus Sophorae japonicae, concentrated hydrochloric acid and magnesium chips were added to the extract. A pink-red color was observed, which indicates the presence of:
Correct answer	flavonoids
B	coumarins
C	tannins
D	Anthracene derivatives
E	Saponins
№	крок 2019
Topic	vitamins
Task	The phytopreparation "Aromelin" exhibits P-vitamin activity. What plant material is used to obtain the drug "Aromelin"?
Correct answer	<i>Fructus Aroniae melanocarpae</i>
B	<i>Fructus Sorbi</i>
C	<i>Fructus Sambuci nigrae</i>

D	<i>Fructus Crataegi</i>
E	<i>Fructus Viburni</i>
№	крок 2019
Topic	Saponins
Task	В образце <i>Folia Orthosiphonis staminei</i> установлено наличие гликозидных производных урсана. Этот образец можно отнести к сырью, которое содержит:
Correct answer	Saponins
B	ecdysteroids
C	cardioglycosides
D	Phytosterols
E	cyanoglycosides
№	крок 2019
Topic	common phenols
Task	<i>Folia Uvae-ursi</i> is a uroseptic agent. Allowable admixtures to this raw material are:
Correct answer	<i>Folia Vaccini vitis-idaea</i>
B	<i>Folia Cotini coggygriae</i>
C	<i>Herba Bursae pastoris</i>
D	<i>Folia Urticae</i>
E	<i>Folia Digitalis lanata</i>
№	крок 2019
Topic	vitamins
Task	The patient suffers from avitaminosis C. The doctor prescribed a course of herbal medicine. What medicinal plant materials are rich in this vitamin?
Correct answer	<i>Fructus Sorbi</i>
B	<i>Cortex Quercus</i>
C	<i>Rhizoma Tormentillae</i>
D	<i>Cortex Viburni opuli</i>
E	<i>Folium Menthae piperitae</i>
№	крок 2019
Topic	MPRM standardization
Task	Impurities in MPRM get into the preparation, drying and primary processing of raw materials. Organic impurities include:

Correct answer	Parts of the same plant, but not raw materials
B	Pieces of glass
C	Sand
D	Pieces of earth
E	Metallic subjects
№	крок 2019
Topic	MPRM standardization
Task	The quality of medicinal plant materials depends on the timing of procurement. Underground organs - roots, rhizomes, tubers should be harvested:
Correct answer	Early spring or autumn
B	During the growing season
C	flowering
D	flowering end
E	before flowering
№	крок 2019
Topic	lignans and xanthones
Task	Schisandra chinensis seeds contain lignans. What is the pharmacological effect of lemongrass preparations?
Correct answer	tonic
B	sedative
C	antitumor
D	hepatoprotective
E	Reparative
№	крок 2019
Topic	alkaloids
Task	Which plant family is characterized by hyoscyamine and scopolamine?
Correct answer	Solanaceae
B	Papaveraceae
C	Аросупасеае
D	Fabaceae
E	Asteraceae
№	крок 2019

Topic	Essential oils
Task	A feature of the preparation of infusions from plant raw materials containing essential oils is:
Correct answer	Cooking in a tightly sealed container
B	Straining without squeezing raw materials
C	cold infusion
D	Acidification with hydrochloric acid
E	Straining without cooling
№	крок 2019
Topic	cardioglycosides
Task	Foxglove purpurea leaves are used to obtain cardiotoxic drugs. At what temperature should this raw material be dried?
Correct answer	50-60°C
B	20-25°C
C	30-40°C
D	80-90°C
E	90-100°C
№	крок 2019
Topic	common phenols
Task	In pharmacopoeial analysis, the good quality of Folia Arctostaphili uvae-ursi is determined by the content:
Correct answer	Arbutin
B	Hyoscyamine
C	rutin
D	Mangiferin
E	Kelin
№	крок 2019
Topic	iridoids
Task	The phytochemical department produces tinctures and thick extracts from rhizomes and roots of valerian, which are part of complex preparations with a sedative effect. Name which group of biologically active compounds the valerian valepotriates belong to: valtrate, acetovaltrate, dihydrovaltrate:
Correct answer	iridoids
B	alkaloids
C	Essential oils

D	Polysaccharides
E	Saponins
№	крок 2019
Topic	alkaloids
Task	When processing the chromatogram of the extract of belladonna leaves with Dragendorff's reagent, orange or orange-red spots appear on a yellow background. This indicates the presence of:
Correct answer	alkaloids
B	Saponins
C	phenolglycosides
D	cardioglycosides
E	tannins
№	крок 2019
Topic	Essential oils
Task	Freshly picked lemon balm leaves are dried at a temperature not higher than 35 ° C. What compounds in the raw material are responsible for such drying conditions?
Correct answer	Essential oils
B	alkaloids
C	Anthracene derivatives
D	Polysaccharides
E	cardioglycosides
№	крок 2019
Topic	flavonoids
Task	<i>Herba Leonuri</i> is a source of antihypertensive-sedatives. The procurement of this plant material should be carried out taking into account turnover period, which is:
Correct answer	Once every 5 years
B	Once every 2 years
C	every year
D	Once every 10 years
E	Once every 3 years
№	крок 2019
Topic	Saponins

Task	Name a medicinal plant, the expectorant and anti-inflammatory properties of which are due to the presence of triterpene Saponins:
Correct answer	Glycyrrhiza glabra
B	Astragalus dasyanthus
C	Orthosiphon stamineus
D	Panax ginseng
E	Aralia mandshurica
№	крок 2019
Topic	vitamins
Task	When the raw material arrived at the vitamin plant, it was found that it is round, wrinkled fruits of orange-red color and sour-sweet, slightly astringent taste, up to 3 cm long, up to 1.5 cm in diameter. Inside the fruits, there are many nuts, which are in shape are small, hard, angular, yellow in color. The nuts and the inner surface of the fruit are side by side covered with long, very hard, bristly hairs. It was concluded that the raw materials belong to:
Correct answer	Fructus Rosae
B	Fructus Ribis nigri
C	Fructus Viburni
D	Fructus Hippophaes
E	Fructus Sorbi
№	крок 2020
Topic	Saponin
Task	The plant's phytochemical department produces calendula tincture. Indicate what raw materials are used for the manufacture of this drug:
Correct answer	flowers
B	Roots, rhizomes and grass
C	grass
D	Leaves and Essential oils
E	roots
№	крок 2020
Topic	lignans
Task	Milk thistle preparations "Silibor", "Karsil" exhibit hepatoprotective effect. The raw materials for these preparations of milk thistle are:
Correct answer	seeds

B	grass
C	roots
D	flowers
E	leaves
№	крок 2020
Topic	vitamins
Task	On a transverse section of a leaf of a medicinal plant, stinging hairs with a multicellular support and a large terminal cell, which ends in a head, break off; and the presence of cystoliths. Determine which medicinal plant has such microscopic signs:
Correct answer	Stinging nettle
B	Belladonna ordinary
C	shepherd's purse
D	peppermint
E	oregano
№	крок 2020
Topic	Polysaccharides
Task	To determine the authenticity of raw materials, a few drops of an alcohol solution of alpha-naphthol and concentrated sulfuric acid were applied to the fracture of the Cichorium intybus L. root. A pink-violet color appeared, which indicates the presence in the raw material:
Correct answer	Inulin
B	Essential oils
C	Fat oils
D	pectin
E	mucus
№	крок 2020
Topic	chromones
Task	The fruits of visnaga carrot (ammi dental) have antispasmodic properties. What group of substances regulates the quality of this raw material and determines this effect?
Correct answer	Furanochromones
B	vitamins
C	flavonoids
D	lignans

E	Polysaccharides
№	крок 2020
Topic	flavonoids
Task	Medicinal plants of the Fabaceae family contain various groups of BAC. Which family member contains flavonoids and is used as an industrial source of rutin?
Correct answer	Sophora Japanese
B	grass Burrows
C	Licorice glabrous
D	Thermopsis lanceolate
E	Field steel
№	крок 2020
Topic	cardioglycosides
Task	The drug "Kratall" is used as a cardioprotective agent. The herbal source for obtaining this drug are:
Correct answer	Hawthorn fruits
B	the valley leaves
C	the peppermint leaves
D	the foxglove leaves
E	Peony grass
№	крок 2020
Topic	cardioglycosides
Task	The main active ingredients of digitalis purpurea are purpureaglycoside A and purpureaglycoside B. To which class of biologically active substances do they belong?
Correct answer	cardioglycosides
B	alkaloids
C	Anthracene derivatives
D	flavonoids
E	phenolic compounds
№	крок 2020
Topic	alkaloids
Task	Alkaloids are used in medical practice for the treatment of various diseases. In terms of chemical structure, drugs from the group of alkaloids derived from quinolizidine include:

Correct answer	Pachikarpin's hydroiodide
B	Codeine Phosphate
C	Scopolamine hydrobromide
D	Quinine sulfate
E	Caffeine Monohydrate
№	крок 2020
Topic	alkaloids
Task	The drug Novopassit is used as a sedative. From what medicinal plant is it obtained?
Correct answer	Passiflora grass
B	Poplar black buds
C	Viburnum's bark
D	dandelion roots
E	Calamus rhizomes
№	крок 2020
Topic	tannins
Task	Indicate the medicinal plant, which is used as an industrial source of tannin:
Correct answer	Scumpia tanning leaves
B	Goldenrod herb
C	Nettle leaves
D	Knotweed Pepper Herb
E	rose hips fruits
№	крок 2020
Topic	alkaloids
Task	The standardization of this raw material is carried out according to the content of alkaloids in terms of hyoscyamine. Name this raw material:
Correct answer	Folia Belladonnae
B	Fructus Capsici
C	Herba Chelidonii
D	Herba Thermopsis lanceolatae
E	Radices Berberidis
№	крок 2020

Topic	phenolic compounds
Task	Folia Uvae ursi is a uroseptic remedy. An admissible admixture to this raw material is:
Correct answer	Folia Vitis idaeae
B	Folia Digitalis lanata
C	Folia Urticae
D	Folia Cotini coggygiae
E	Herba Bursae pastoris
№	крок 2020
Topic	tannins
Task	The analysis received MP (fruits) - black shiny drupes with a diameter of 8 mm with one large, very strong spherical light-brown seed. Chemical analysis showed the presence of condensed tannins. Which plant is the source of this raw material?
Correct answer	common blueberries
B	zhoster laxative
C	Schisandra chinensis
D	Bird cherry ordinary
E	Black currant
№	крок 2020
Topic	alkaloids
Task	To achieve an increase in tone and specific rhythmic activity of the uterus, herbal products based on ergot alkaloids are used. Please indicate this drug:
Correct answer	Ergotamine hydrotartrate
B	Atropine sulfate
C	Morphine hydrochloride
D	Codeine Phosphate
E	Papaverine hydrochloride
№	крок 2020
Topic	Resource science
Task	Motherwort herb is a source of antihypertensive-sedatives. The harvesting of this plant material should be carried out taking into account the turnover period, which is:
Correct answer	Once every 2 years
B	Once every 5 years

C	Once every 5 years
D	every year
E	Once every 10 years
№	крок 2020
Topic	Saponins
Task	Preparations of ginseng roots show tonic and adaptogenic properties, improve mental and physical performance. If there is no ginseng tincture in the pharmacy, it can be replaced with preparations from:
Correct answer	Araliae mandshuricae radices
B	Tormentillae radices
C	Glycyrrhizae radices
D	Taraxaci radices
E	Calami radices
№	крок 2020
Topic	Polysaccharides
Task	Raw materials were received for analysis: leaves are round-cordate, notched along the edge, unevenly, rarely and finely toothed, glabrous from above, white-tomentose below. Cuttings are thin, grooved from above, often with tomentose pubescence. The length of the leaf blade is usually 8-15 cm, the cutting is about 5 cm. The color of the leaves on the upper side is green, the underside is whitish-gray. There is no smell. The taste is slightly bitter with a sensation of slimy. Define the MP:
Correct answer	Folia Farfarae
B	Folia Eucalypti
C	Folia Urticae
D	Folia Menthae
E	Folia Uvae-ursi
№	крок 2020
Topic	cardioglycosides
Task	Indicate the potent medicinal plant material from which the infusion is prepared in a ratio of 1: 400:
Correct answer	foxglove's leaves
B	Rhizomes with valerian roots
C	Marshmallow root
D	Motherwort herb
E	Sage leaves

№	крок 2020
Topic	iridoids
Task	The phytochemical department produces tinctures and thick extracts from rhizomes and roots of valerian, which are part of complex preparations with a sedative effect. Name which group of biologically active compounds the valerian valepotriates belong to: valtrate, acetovaltrate, dihydrovaltrate:
Correct answer	iridoids
B	Essential oils
C	alkaloids
D	Polysaccharides
E	Saponins
№	крок 2020
Topic	Resource science
Task	To determine the stocks of wild-growing RL, you need to know two values - the area of the thicket and its yield. The yield of thyme grass is determined by:
Correct answer	By the projective covering method
B	By the method of registration areas
C	By eye
D	Geodetic way
E	By the method of model instances
№	крок 2012
Topic	Resource studies of medicinal plants
Task	Admixtures can get into the herbal raw material during harvesting, drying and primary processing. Mineral admixtures include:
Correct answer	Sand, earth, stones
B	Metal objects
C	Other similar plants
D	Droppings of birds and rodents
E	Other organs of the same plant
№	крок 2012, 2011, 2010
Topic	Macroscopic analysis of medicinal plant raw materials

Task	Preparations made out of 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 made of the following raw material:
Correct answer	Ginseng roots
B	Elecampane roots
C	Rhizomes and roots of valerian
D	Polemonium roots
E	Acorus calamus roots
№	krok 2012
Topic	Microscopic analysis of medicinal plant raw materials
Task	A teenager with hyporexia has been recommended to drink medicinal herbal tea of the following composition: <i>Herba Absinthii</i> , <i>Herba Millefolii</i> . Specify the characteristic microscopic features of <i>Artemisia absinthium</i> , which indicate its presence in the herb mixture:
Correct answer	T-shaped hairs along the leaf edge
B	Simple and capitate hairs
C	Branched, simple and ciliated hairs
D	Retor-shaped hairs
E	Branched and capitate hairs
№	krok 2012, 2011
Topic	Macroscopic analysis of medicinal plant raw materials
Task	A laboratory received some herbal raw material for analysis. The plant had flowerheads up to 4 cm in diameter, the marginal flowers were agamic, blue, funnel-shaped; the inner flowers were bisexual, purple, tubular. What plant are these features typical for?
Correct answer	<i>Centaurea cyanus</i>
B	<i>Solidago virgaurea</i>
C	<i>Polygonum persicaria</i>
D	<i>Scutellaria baicalensis</i>
E	<i>Viola tricolor</i>
№	krok 2011, 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	A pharmacist made a tincture of Adonis herb. A peculiarity of its preparation is that the active substances are derived in:
Correct answer	In the neutral medium

B	In the alkalescent medium
C	In the alkaline medium
D	In the subacid medium
E	In the acid medium
№	krok 2011, 2010
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Coltsfoot preparations are used for upper airways treatment. During procurement of this herbal raw material the following admixture may appear:
Correct answer	Great bur (<i>Arctium lappa</i>)
B	Common plantain (<i>Plantago major</i>)
C	Spring adonis (<i>Adonis vernalis</i>)
D	Marsh mallow (<i>Althaea officinalis</i>)
E	Pot marjoram (<i>Origanum vulgare</i>)
№	krok 2011
Topic	Chemical analysis of medicinal plant raw materials
Task	Specify the herbal raw material with high concentration of carotinoids which is used for production of phytopreparations:
Correct answer	Sea-buckthorn fruits
B	Currant leaflets
C	Caseweed grass
D	Wild strawberry leaves
E	Parsley roots
№	krok 2011
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Calamus rhizome is likely to be confused with some other plant rhizome that can be found as an admixture in the herbal raw material. Specify the most likely admixture:
Correct answer	Iris rhizome
B	Valerian rhizome
C	Elecampane roots
D	Althaea roots
E	Phlojodicarpus roots
№	krok 2011

Topic	Chemical analysis of medicinal plant raw materials
Task	Tannins can be used as an antidote for alkaloid poisoning. What herbal remedy should be applied in case of such intoxication:
Correct answer	Cinquefoil root
B	Calamus rhizome
C	Althaea root
D	Rhizome and roots of madder
E	Elecampane root
№	krok 2011, 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	Tannins have astringent effect and are used for treatment of colitis, enterocolitis, diarrhea. What herbal raw material contains a lot of tannins?
Correct answer	<i>Fructus Myrtilli</i>
B	<i>Fructus Sambucci nigri</i>
C	<i>Fructus Ribes nigri</i>
D	<i>Fructus Rhamni catharticae</i>
E	<i>Fructus Frangulae</i>
№	krok 2011, 2010
Topic	Chemical analysis of medicinal plant raw materials
Task	Cardioglycosides of <i>Adonis vernalis</i> are used for heart failure treatment. This plant raw material should be stored:
Correct answer	According to the list B
B	According to the list A
C	Under normal conditions
D	Protected from $C O_2$
E	In metal containers
№	krok 2011
Topic	Resource studies of medicinal plants
Task	Underground organs of medicinal plants that accumulate the most of active substances should be collected:
Correct answer	After the seeds have ripened and the overground parts died off
B	At the flowering stage
C	During the green fruiting
D	At the budding stage

E	At the stem extension stage
№	krok 2011, 2010, 2009
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Styles of maize with stigmata containing fatty acids, vitamins, essential oils, saponins and other substances are used as:
Correct answer	Diuretic and choleric
B	Sedative and anticonvulsant
C	Cardiotonic and antiarrhythmic
D	Expectorant and antiechic
E	Bactericidal and astringent
№	krok 2011
Topic	Macroscopic analysis of medicinal plant raw materials
Task	It is required to analyse some herbal raw material in form of shiny black drupes up to 6-8 mm in diameter; the bone is large, very firm, spherical, light brown, with a single seed; it has a sweet, slightly astringent taste. This herbal raw material should be qualified as a fruit of:
Correct answer	Bird cherry
B	Blueberry
C	Black chokeberry
D	Buckthorn
E	Hawthorn
№	krok 2011
Topic	Microscopic analysis of medicinal plant raw materials
Task	Essential oil of rose is used as an anti-inflammatory and antispasmodic agent. It is localized in the following excretory organs:
Correct answer	Glandular spots
B	Essential oil glandules
C	Essential oil conceptacles
D	Secretory cells
E	Glandular hairs
№	krok 2011, 2010, 2009
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Fatty oil containing saturated fatty acids is used for atherosclerosis prevention. Specify the medicinal plant that is used for oil production:

Correct answer	Flax seeds
B	Fennelflower seeds
C	Dill seeds
D	Black chokeberry fruits
E	Hawthorn fruits
№	krok 2011, 2010
Topic	Chemical analysis of medicinal plant raw materials
Task	A phytochemical production unit produces biogenic stimulators out of different raw materials. Specify the biogenic stimulators of organomineral origin:
Correct answer	Peloidinum, Humisolum, Torfotum, Fibs pro injectionibus
B	Extractum Aloes fluidum, Linimentum Aloes, Succus Aloes, Biosedum
C	Vitreous body, Placenta injection, Plasmolum, Solcoseryl
D	Extractum Aloes fluidum, Linimentum Aloes, Plasmolum
E	Peloidinum, Humisolum, Torfotum, Plasmolum, Solcoseryl
№	krok 2011, 2010
Topic	Chemical analysis of medicinal plant raw materials
Task	Upper airways diseases can be treated by means of herbal raw materials containing mucilages. The plant source of this compound class is:
Correct answer	<i>Radix Althaeae</i>
B	<i>Radix Inulae</i>
C	<i>Radix Ipecacuanhae</i>
D	<i>Radix Rhodiolae</i>
E	<i>Radix Belladonnae</i>
№	krok 2011
Topic	Chemical analysis of medicinal plant raw materials
Task	The main active components of senna leaves and fruits are sennosides A, B, C, D. They relate to the following class of biologically active substances:
Correct answer	Anthracene derivatives
B	Phenolic acids
C	Flavonoids
D	Iridoids

E	Thioglycosides
№	krok 2011, 2009
Topic	Macroscopic analysis of medicinal plant raw materials
Task	A biennial or perennial plant from the Apiaceae family has a blue-grey stem branching in its lower part. Its leaves are also blue-grey, finely dissected, with the ultimate filiform segments. The flowers are yellow, in compound umbels. Its fruit is used for production of "dill water". What plant is it?
Correct answer	Foeniculum vulgare
B	Carum carvi
C	Petroselinum crispum
D	Coriandrum sativum
E	Conium maculatum
№	krok 2011
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Before the raw plant material is taken over from the supplier, it must be checked for compliance. Which document is the ground for recording raw plant material as received in the pharmacy in case of its approval?
Correct answer	Acceptance certificate
B	Consignation note
C	Write-off certificate
D	Invoice
E	-
№	krok 2011, 2009
Topic	The main pharmacological effects
Task	Common juniper is applied as a diuretic, anti-inflammatory and cholagogic agent. This plant gives the following medicinal raw material:
Correct answer	Fruits
B	Sprouts
C	Leaves
D	Roots
E	Seeds
№	krok 2010
Topic	The main pharmacological effects

Task	A patient with heart failure induced by a long-term coronary vessel disorder can be administered a drug produced out of the following herbal raw material:
Correct answer	Hawthorn
B	Calendula flowers
C	Ginseng roots
D	Aralia roots
E	Berberis roots
№	krok 2010
Topic	The main pharmacological effects
Task	Preparations on the basis of dandelion roots are recommended for better digestion and as a choleric because this herbal raw material contains:
Correct answer	Bitters
B	Essential oil
C	Balsams
D	Saponins
E	Flavonoids
№	krok 2010
Topic	The main pharmacological effects
Task	Yellow gentian contains bitter glycosides. Raw material of this plant is recommended for production of drugs with the following effect:
Correct answer	Stimulates appetite
B	Tonic
C	Diuretic
D	Hepatoprotective
E	Venotonic
№	krok 2010
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Preparations of common valerian are used in medical practice as sedative drugs. The main feature that allows to distinguish valerian from the admixtures is:
Correct answer	Specific odor
B	No specific odor
C	Specific taste

D	Specific color of raw materials
E	Stems remains
№	krok 2010
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Tanning agents of silverweed roots and rhizomes are used as an astringent. What species of silverweed is pharmacopoeial?
Correct answer	<i>Potentilla erecta</i>
B	<i>Potentilla argentea</i>
C	<i>Potentilla pilosa</i>
D	<i>Potentilla impolita</i>
E	<i>Potentilla anserina</i>
№	krok 2010
Topic	Chemical analysis of medicinal plant raw materials
Task	Some domestic and foreign hepatoprotective activity preparation are made of holy thistle bearing. Purity of this material is determined by the content of:
Correct answer	Flavolignan
B	Coumarins
C	Alkaloids
D	Vitamins
E	Terpenoids
№	krok 2010, 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	On the base of licorice root different drug dosage forms are produced, notably tablets, powders, syrups, teas. The only unused form is injection solution. Licorice roots exhibit haemolytic properties typical for the following active substances:
Correct answer	Saponins
B	Alkaloids
C	Essential oils
D	Iridoids
E	Polysaccharides
№	krok 2010, 2009
Topic	Chemical analysis of medicinal plant raw materials

Task	Restharrow (Ononis) root is used for production of a tincture applied for treatment of haemorrhoidal haemorrhages. Isoflavonoids can be identified in the raw material by means of:
Correct answer	Chromatographic method
B	Cyanidin test
C	Hemolytic index
D	Biological standardization
E	Foam number
№	krok 2010, 2009
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Hawthorn flowers are used for production of cardiogenic drugs. During procurement of this crude drug the flowers of the following plant can appear in it:
Correct answer	Blackthorn
B	Buckthorn
C	Bird-cherry
D	Brier
E	Elder
№	krok 2013
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Medications <i>Passit</i> and <i>Novopassit</i> are used as tranquilizing, sedative and mild hypnotic agents. These medications are produced from the following grass:
Correct answer	Purple passionflower
B	Three-lobed beggarticks
C	Garden sage
D	Elecampane
E	Lesser periwinkle
№	krok 2013
Topic	Chemical analysis of medicinal plant raw materials
Task	Pharmaceutical depot received a batch of herbal material of cinnamon rose. What substance determines the quality of the raw material?
Correct answer	Ascorbic acid
B	Tannins

C	Anthracene derivatives
D	Essential oil
E	Coumarins
№	krok 2013
Topic	Chemical analysis of medicinal plant raw materials
Task	Representatives of the family <i>Solanaceae</i> are widely used in medical practice as alkaloid-containing plants. Which representative is the source for production of semisynthetic steroid hormones?
Correct answer	<i>Solanum laciniatum</i>
B	<i>Atropa belladonna</i>
C	<i>Datura Stramonium</i>
D	<i>Hyoscyamus niger</i>
E	<i>Solanum tuberosum</i>
№	krok 2013
Topic	Resource studies of medicinal plants
Task	After harvesting the calamus rhizomes the received material should be dried. What temperature range is required for obtaining good-quality raw material?
Correct answer	35-40° C
B	40-60° C
C	60-70° C
D	70-80° C
E	80-90° C
№	krok 2013
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Field horsetail grass is recommended as a diuretic. What herbal material can be used as a substitute?
Correct answer	Herba Aervae lanatae
B	Herba Leonuri
C	Herba Menthae piperitae
D	Herba Convallariae
E	Herba Adonidis
№	krok 2013

Topic	Macroscopic analysis of medicinal plant raw materials
Task	A pharmacy has no quinquelobate motherwort in stock. It can be substituted by the following herbal material:
Correct answer	Rhizomes and roots of valerian
B	Linden flowers
C	Beggarticks grass
D	Raspberry fruits
E	Hypericum grass
№	krok 2013
Topic	Macroscopic analysis of medicinal plant raw materials
Task	A drug raw material from the family <i>Polygonaceae</i> had been sent to a laboratory for analysis. On macroscopic examination the material was identified as a herbaceous plant with lanceolate leaves with a red spot, and filmy ocreae covered with appressed hairs. The plant had the apical inflorescence in dense spicate panicles. What plant is it?
Correct answer	Redshank (<i>Persicaria</i>)
B	Common knotweed
C	Biting knotweed
D	Snakeweed
E	Common buckwheat
№	krok 2013
Topic	Macroscopic analysis of medicinal plant raw materials
Task	Menthol has anesthetic and anti-septic effect. What plant is the source of menthol?
Correct answer	<i>Folia Menthae piperitae</i>
B	<i>Folia Uvae ursi</i>
C	<i>Folia Eucalypti</i>
D	<i>Folia Salviae</i>
E	<i>Folia Absinthii</i>
№	krok 2013
Topic	Chemical analysis of medicinal plant raw materials
Task	The thyme grass is used for the production of herbal medical products for the treatment of respiratory tract infections. Under the SPhU, the herbal raw material is subject to chromatographic identification by means of thin layer chromatography. What substances are detected on the chromatographic plate after its treatment with due reagent?
Correct answer	Thymol and carvacrol

B	Atropine and hyoscyamine
C	Quercetin and rutin
D	Apigenin and luteolin
E	Arbutin and methyl arbutin
№	krok 2013
Topic	Chemical analysis of medicinal plant raw materials
Task	Flower buds of clove contain the essential oil used for production of herbal antiseptics. Under the State Pharmacopoeia of Ukraine, the raw materials are identified by the method of thin layer chromatography. What zones can be identified on the chromatographic plate after their treatment with reagent?
Correct answer	Eugenol and caryophyllene
B	Quercetin and rutin
C	Hyoscyamine and scopolamine
D	Apigenin and luteolin
E	Scopoletin and umbeliferon
№	krok 2013
Topic	Tinctures
Task	Preparations made of ginseng roots have tonic and adaptogenic properties, improve mental and physical performance. If the ginseng tincture cannot be found in a pharmacy, it can be substituted by the analogous preparations made of the following raw material:
Correct answer	Radices Eleutherococci
B	Radices Valerianae
C	Radices Inulae
D	Radices Ononidis
E	Radices Rhei
№	krok 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	If the internal surface of buckthorn rind is moistened with 5% alkaline solution, it becomes cherryred colouring. This is the evidence of presence of the following substance:
Correct answer	Anthracene derivatives
B	Alkaloids
C	Saponins
D	Flavonoids

E	Tannins
№	krok 2009
Topic	Organization of storage of drugs
Task	Leaves of belladonna, henbane and datura containing tropane alkaloids must be stored according to the following list requirements:
Correct answer	B list (these drug substances require caution in handling, storage or use)
B	A list (poisonous drug substances)
C	General sales list
D	Essential oil materials list
E	List of substances equivalent to narcotics
№	krok 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	One of the ways to derive essential oil is enfleurage, or maceration. Essential oil can be derived by enfleurage from the following herbal raw material:
Correct answer	Petals of Damascus rose
B	Lemon skin
C	Coriander fruits
D	Mint leaves
E	Camomile flowers
№	krok 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	Anthracene derivatives of emodine group exhibit purgative effect. What herbal raw material contains large quantity of anthracene derivatives of emodine group?
Correct answer	Buckthorn fruits
B	Elder fruits
C	Currants fruits
D	Bilberry fruits
E	Alder buckthorn fruits
№	krok 2009
Topic	Extracts
Task	A phytochemical department of a pharmaceutical factory produces biogenic stimulators out of different raw materials. Specify the plant-derived biogenic stimulators:

Correct answer	Liquid extract of aloe, aloe liniment, aloe juice, biosedum
B	Liquid extract of aloe, peloidinum, biosedum juice
C	Peloidinum, humisolum, torfotum, Fibs pro injectionibus
D	Vitreous body, Suspesio Placetae pro injectionibus, aloe juice, biosedum
E	Peloidinum, humisolum, torfotum, plasmol, solcoseryl
№	krok 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	A storehouse received a batch of althaea roots. For its verification a drop of ammonia solution was applied upon the root section; the spot of section turned yellow. This is the evidence of presence of the following substance:
Correct answer	Mucilages
B	Tannins
C	Gum
D	Pectins
E	Vitamin C
№	krok 2009
Topic	Chemical analysis of medicinal plant raw materials
Task	Fruits of holy thistle (Silybum) are used for production of a number of domestic and foreign hepatoprotective drugs. Factor of merit of this raw material is content of:
Correct answer	Flavolignans
B	Cumarins
C	Alkaloids
D	Vitamins
E	Terpenoids
№	krok 2009
Topic	Extracts
Task	According to the pharmacopoeia requirements of liquid extract production, the extractant and the raw material should be taken in the following proportion:
Correct answer	1:01
B	1:03
C	1:05
D	1:10

E	1:04
№	krok 2009
Topic	Tinctures
Task	Tincture of what medicinal plant can be applied as a tonic?
Correct answer	Rhodiola rosea
B	Achillea millefolium
C	Orthosiphon stamineus
D	Digitalis purpurea
E	Robinia pseudacacia
№	krok 2009
Topic	Extracts
Task	A pharmacist brews an aqueous extract out of medicinal raw material in the tightly closed infusion vessel for 15 minutes and stirs it without opening the lid. Such technology of infusion preparation is typical for the following medicinal raw material:
Correct answer	Mint leaves
B	Bilberry leaves
C	Senna leaves
D	Manzanita leaves
E	Cowberry leaves
№	krok 2009
Topic	Tinctures
Task	A phytochemical department of a pharmaceutical factory produces valerian tincture of fresh material. Technological peculiarity of its production is that it should be produced on the base of:
Correct answer	70% ethanol with the ratio 1:5
B	70% ethanol with the ratio 1:10
C	90% ethanol with the ratio 1:5
D	90% ethanol with the ratio 1:10
E	95% ethanol with the ratio 1:10
№	krok 2016
Topic	Common phenols

Task	A species of <i>Ericaceae</i> family is characterized by the following type of leaves: alternate leaf arrangement, short footstalk, leathery, elliptic or obovate with retuse tip, downturned edges; upper surface is dark-green, lower surface is light-green with punctate glandules. Name this species:
Correct answer	<i>Vaccinium vitis-idaea</i>
B	<i>Arctostaphilos uva-ursi</i>
C	<i>Vaccinium oxycoccus</i>
D	<i>Vaccinium myrtillus</i>
E	<i>Ledum palustre</i>
№	krok 2016
Topic	Vitamins
Task	Diet of an individual must contain vitamins. What vitamin is usually prescribed for treatment and prevention of pellagra?
Correct answer	Vitamin P P
B	Vitamin C
C	Vitamin A
D	Vitamin B ₁
E	Vitamin D
№	krok 2016
Topic	Polysaccarides
Task	Flax seeds are used in medicine as coating agents, due to the following ability of their secondary membranes:
Correct answer	Sliming
B	Suberization
C	Gummosis
D	Lignification
E	Mineralization
№	krok 2016, 2015
Topic	Polysaccarides
Task	The end product of starch hydrolysis is:
Correct answer	D-glucose
B	D-fructose
C	Saccharose
D	Maltose

E	D-galactose
№	krok 2016
Topic	Polysaccharides
Task	What reagent can help distinguish between starch and glucose?
Correct answer	I_2
B	Br_2
C	$KMnO_4$
D	$K_2Cr_2O_7$
E	$FeCl_3$
№	krok 2016, 2015
Topic	Vitamins
Task	A woman noticed that a cut on her skin was still bleeding even after 4 minutes had passed. What vitamin deficiency causes such condition?
Correct answer	Vitamin K
B	Vitamin A
C	Vitamin D
D	Vitamin E
E	Vitamin B_{12}
№	krok 2016, 2015
Topic	Tannins
Task	<i>Quercus robur</i> leaves have the following type of lamina shape and division:
Correct answer	Pinnatilobate
B	Trilobate
C	Pinnatipartite
D	Palmatilobate
E	Palmatipartite
№	krok 2016
Topic	Lipids
Task	Microscopic study of soy bean seeds stained with Sudan III revealed droplets of various sizes. These droplets are:
Correct answer	Lipids

B	Proteins
C	Starch
D	Inulin
E	Glycogen
№	krok 2016, 2015
Topic	Morphology of plants
Task	Selective solvents are used in laboratories and factories to isolate and refine essential oils, alkaloids, antibiotics and other pharmaceutical substances. This process is called:
Correct answer	Extraction
B	Sedimentation
C	Coagulation
D	Flocculation
E	Flotation
№	krok 2016, 2015
Topic	Morphology of plants
Task	What type of conducting bundles is characteristic of all root zones of one-seeded plants?
Correct answer	Radical
B	Central phloem (Amphivasal)
C	Central xylem (Amphicribal)
D	Bilateral
E	Collateral
№	krok 2016, 2015
Topic	Essential oils
Task	You are studying a silvery downy plant of <i>Asteraceae</i> family, which is rich with essential oils and bitters. Harvested are apical sprouts with panicle of small round flower heads. This plant is:
Correct answer	<i>Artemisia absinthium</i>
B	<i>Arctium lappa</i>
C	<i>Bidens tripartita</i>
D	<i>Calendula officinalis</i>
E	<i>Chamomilla recutita</i>
№	krok 2016

Topic	Morphology of plants
Task	Common nettle, hop, and black elderberry require soils rich in nitrogen compounds. Such plants are called:
Correct answer	Nitrophyles
B	Nitrophobes
C	Calciphiles
D	Calciphobes
E	Halophytes
№	krok 2016
Topic	Morphology of plants
Task	Colored or white component of double perianth, which consists of petals, is a:
Correct answer	Corolla
B	Flower cup
C	Androecium
D	Gynoecium
E	Perigonium
№	krok 2016
Topic	Morphology of plants
Task	Weeds can be harmful for populace's wellbeing. Particularly, allergic reactions are often caused by the following plant in its period of blossoming:
Correct answer	<i>Ambrosia artemisiifolia</i>
B	<i>Equisetum arvense</i>
C	<i>Stellaria media</i>
D	<i>Erigeron canadensis</i>
E	<i>Taraxacum officinale</i>
№	krok 2016
Topic	Vitamins
Task	A patient demonstrates symmetrical dermatitis on the palms. A doctor made a diagnosis of pellagra. What vitamin deficiency can result in such symptoms?
Correct answer	Nicotinic acid
B	Cobalamin
C	Ascorbic acid

D	Folic acid
E	Cholecalciferol
№	krok 2016
Topic	Morphology of plants
Task	What forms from an ovule after fertilization of flowering plants?
Correct answer	Seed
B	Gametophyte
C	Sporophyte
D	Fruit
E	Endosperm
№	krok 2016
Topic	Morphology of plants
Task	Corolla of a zygomorphic bi-sexual flower consists of 5 petals: the largest one is called banner, two lateral - wings, and two fused together - keel. This corolla is characteristic of <i>Fabacea</i> family and is called:
Correct answer	Papilionaceous
B	Lingulate
C	Rotate
D	Funnelform
E	Tubular
№	krok 2016
Topic	Essential oils
Task	A plant producing essential oil has square stem, bilabiate corolla, coenobium fruit. These features are characteristic of:
Correct answer	<i>Lamiaceae</i>
B	<i>Papaveraceae</i>
C	<i>Polygonaceae</i>
D	<i>Solanaceae</i>
E	<i>Scrophulariaceae</i>
№	krok 2016, 2015
Topic	Morphology of plants
Task	Students should identify the following to determine the sex of a flower:
Correct answer	Stamens and pistils

B	Flower cup and corolla
C	Pedicle and receptacle
D	Symmetry
E	Color and type of indumentum
№	krok 2016
Topic	Saponins
Task	Both scientific and folk medicine uses medicinal plant <i>Glycyrrhiza glabra L.</i> What part of the plant is harvested?
Correct answer	Roots and rhizomes
B	Foliage
C	Inflorescence
D	Grass
E	Seeds
№	krok 2016
Topic	Morphology of plants
Task	Rhizome of an <i>Asteraceae</i> family species is polycephalous, succulent, has lysigenous cavities, accumulates inulin. Such underground organ is characteristic of:
Correct answer	<i>Inula helenium</i>
B	<i>Hyoscyamus niger</i>
C	<i>Digitalis grandiflora</i>
D	<i>Sorbus aucuparia</i>
E	<i>Helianthus annuus</i>
№	krok 2015
Topic	Morphology of plants
Task	When root was being studied under microscope, root hairs were detected, which are cell growths of:
Correct answer	Epiblema
B	Epidermis
C	Endoderm
D	Exoderm
E	Mesoderm
№	krok 2015
Topic	Morphology of plants

Task	Diet of a human must contain vitamins. What vitamin is usually prescribed for treatment and prevention of pellagra?
Correct answer	Vitamin PP
B	Vitamin C
C	Vitamin A
D	Vitamin B ₁
E	Vitamin D
№	krok 2015
Topic	flavonoids
Task	In the practice of harvesting herbal raw material of <i>Asteraceae</i> family the term "flowers" means both individual flowers and inflorescences. However, the notion of "flowers" is botanically correct only for:
Correct answer	<i>Centaurea cyanus</i>
B	<i>Gnaphalium uliginosum</i>
C	<i>Arnica montana</i>
D	<i>Echinops ritro</i>
E	<i>Bidens tripartita</i>
№	krok 2015
Topic	lipids
Task	Microscopic study of soybean seeds stained with Sudan III revealed droplets of various sizes. They are:
Correct answer	Lipids
B	Proteins
C	Starch
D	Inulin
E	Glycogen
№	krok 2015
Topic	lipids
Task	Corolla of a zygomorphic hermaphroditic flower consists of 5 petals: the largest one is called the banner, the two lateral petals are called the wings, and the two fused petals forming the keel. Such corolla is characteristic of medicinal plants of Leguminosae family. Name the type of corolla:
Correct answer	Papilionaceous
B	Labiata
C	Saucer-shaped

D	Funnelform
E	Tubular
№	krok 2015
Topic	Morphology of plants
Task	Common nettle, hop, black elderberry are the plants that require soils rich in nitrogen compounds, that is, such plants are called:
Correct answer	Nitrophytes
B	Nitrophobes
C	Calciphiles
D	Calciphobes
E	Halophytes
№	krok 2015
Topic	Morphology of plants
Task	A plant has erect stem with only one leaf growing from each node. What phyllotaxy is characteristic of this plant?
Correct answer	Alternate
B	Opposite
C	Verticillate
D	Dichotomous
E	Parallel
№	krok 2015
Topic	polysaccharides
Task	A cultivated plant has green berrylike fruit and underground sprout modifications - tubers. The described plant is:
Correct answer	<i>Solanum tuberosum</i>
B	<i>Convalaria majalis</i>
C	<i>Polygonatum odoratum</i>
D	<i>Atropa belladonna</i>
E	<i>Solanum lycopersicum</i>
№	krok 2015
Topic	Morphology of plants
Task	Elongated narrow prismatic crystals with sharpened points were detected during microscopic investigation of <i>Convallaria majalis</i> mesophile. These crystals are:
Correct answer	Styloids

B	Druses
C	Crystalline sand
D	Cystoliths
E	Perigonium
№	krok 2015
Topic	Flavonoids
Task	A doctor prescribed a herbal drug with flavonoid complex of <i>Silybum marianum</i> to a patient suffering from chronic hepatitis. This hepatic protector stimulates protein synthesis, normalizes phospholipid metabolism, acts as an antioxidant. Name this drug:
Correct answer	Silymarin
B	Essentiale
C	Galstena
D	Thiotriasoline
E	Ursodeoxycholic acid
№	krok 2015
Topic	Proteins and organic acids
Task	A seed of a legume contains proteins and fatty oil. Name this legume:
Correct answer	<i>Glycine hispida</i>
B	<i>Vaccinium myrtillus</i>
C	<i>Sinapis alba</i>
D	<i>Astragalus dasyanthus</i>
E	<i>Datura stramonium</i>
№	krok 2015
Topic	Essential oils
Task	Rhizome of a species belonging to the Asteraceae family is polycephalous, succulent, has lysigenous cavities, accumulates inulin. Such underground organ is characteristic of:
Correct answer	<i>Inula helenium</i>
B	<i>Hyoscyamus niger</i>
C	<i>Digitalis grandiflora</i>
D	<i>Sorbus aucuparia</i>
E	<i>Helianthus annuus</i>
№	krok 2014

Topic	flavonoids
Task	Rutin exhibits P-vitamin activity. What medicinal plant is used as starting materials for the industrial production of rutin?
Correct answer	Fructus Sophorae japonicae
B	Fructus Hippophaes rhamnoides
C	Flores Helichrysi arenarii
D	Herba Bidentis tripartitae
E	Herba Polygoni avicularis
№	krok 2014
Topic	common phenols
Task	A patient came to a pharmacy to purchase cowberry leaves. Which of the available herbal raw materials can be offered as a substitute?
Correct answer	<i>Folium Uvae ursi</i>
B	<i>Rizoma Calami</i>
C	<i>Rizoma et radix Sanquisorbae officinalis</i>
D	<i>Herba Achilleae millefolii</i>
E	<i>Radix Taraxaci officinalis</i>
№	krok 2014
Topic	essential oils
Task	Pharmaceutical warehouse received a batch of herbal raw material of cinnamon rose. Under the State Pharmacopoeia, it is required to test this raw material for the following active substances:
Correct answer	Ascorbic acid
B	Flavonoids
C	Tannins
D	Anthracene derivatives
E	Essential oil
№	krok 2014
Topic	Alcaloids
Task	Ergot (<i>Secale cornutum</i>) is used as an uterotonic agent in obstetric practice and for the treatment of cardi-vascular diseases. The authenticity of the raw materials is proved by the content of:
Correct answer	Ergotoxine
B	Atropine

C	Hyoscyamine
D	Reserpine
E	Ajmaline
№	krok 2014, 2012
Topic	Essencial oils
Task	A patient purchased peppermi-nt leaves at a pharmacy. What recommendations on infusing this herbal raw material must be given by the pharmacist?
Correct answer	The infusion is to be prepared in a tightly closed vessel
B	The infusion is to be prepared on an open fire
C	The infusion is to be prepared at room temperature
D	The extract is to be immediately filtered after infusing
E	The extract is to be artificially cooled 15 minutes after infusing
№	krok 2014
Topic	essential oils
Task	Sage leaves procured for the production of essential oil should be dried at a temperature of:
Correct answer	25-30° C
B	50-60° C
C	100° C
D	60-70° C
E	70-80° C
№	krok 2014
Topic	essential oils
Task	In order to verify the purity of the essential oil, some ethanol was added into the test tube with peppermint oil. The mixture became turbid. This means that the peppermint oil contains the following impurity:
Correct answer	Fatty oil
B	Phenol
C	Acetone
D	Ethyl acetate
E	Diethyl ether
№	krok 2014

Topic	Cumarins
Task	Ammifurinum contains furocumarines. These biologically active substances are derived from:
Correct answer	Fruits of large ammi
B	Fruits of psoralea
C	Fruits of common parsnip
D	Fruits of toothpick ammi
E	Rhizomes and roots of angelica
№	krok 2014
Topic	Lipids
Task	Fatty oils containing unsaturated fatty acids are used for the prophylaxis of atherosclerosis. Specify the starting materials of herbal origin that contain fatty oil:
Correct answer	Pumpkin seed
B	Ispaghula seed
C	Chestnut seed
D	Parsnip fruits
E	Psoralea fruits
№	krok 2014
Topic	polysaccharides
Task	A pharmacy network received a batch of raw material without analysis protocol. It was identified as marshmallow root by the external characteristics. The reaction with 5% alkali liquor was positive. This indicates the presence of:
Correct answer	Slimes
B	Gums
C	Starch
D	Pectins
E	Cellulose
№	krok 2014, 2013
Topic	essential oils
Task	What herbal drug produced from alkaloid-containing raw materials can be recommended for neurasthenia, insomnia, menopausal disorders?
Correct answer	Novopassit
B	Ergotamine

C	Glaucine hydrochloride
D	Securinine nitrate
E	Vinblastine
№	krok 2014
Topic	common phenols
Task	A student has been prescribed a tonic. This may be the tincture of the following medicinal plant:
Correct answer	Rhodiola rosea
B	Common yarrow
C	Java tea (orthosiphon aristatus)
D	Purple foxglove
E	Black locust
№	krok 2014
Topic	indol's alcaloids
Task	Vincamine alkaloid reduces blood pressure, has a pronounced sedation effect, as well as hemostatic and anti-inflammatory effect. What herb is the source of this alkaloid?
Correct answer	Common periwinkle
B	Thick-fruited pagoda tree
C	Bluish larkspur
D	Northern wolfsbane
E	Yellow water-lily
№	krok 2014
Topic	Cardioglycosids
Task	Lily of the valley is widely regarded as a cardiac stimulant and sedative. During the raw material procurement, the following plant may occur in the harvested crop:
Correct answer	Round-leaved pyrola
B	Spring adonis
C	Treacle-mustard (Erysimum cheiranthoides)
D	Viola tricolor
E	Viola arvensis
№	krok 2014, 2013
Topic	Flavonoids

Task	Under the SPhU (appendix 2), leaves of ginkgo are standardized by the content of:
Correct answer	Flavonoids
B	Saponins
C	Alkaloids
D	Coumarins
E	Chromones
№	krok 2014, 2013
Topic	izoquinolin's alkaloids
Task	Alkaloid glaucine has an antitussive effect that is stronger and longer if compared to that of codeine, and exhibits no narcotic side effects. What medicinal plant contains glaucine?
Correct answer	Yellow hornpoppy
B	Celandine
C	<i>Thermopsis lanceolata</i>
D	<i>Datura</i>
E	Henbane bell (<i>Scopolia carniolica</i>)
№	krok 2014, 2013
Topic	saponins
Task	Drug plant <i>Dioscorea nipponica</i> 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:
Correct answer	Steroid saponins
B	Alkaloids
C	Essential oil
D	Cardiac glycosides
E	Triterpene saponins
№	krok 2014
Topic	lipids
Task	Analytical and control laboratory determines quality of fatty oils by using certain chemical indices. Specify the chemical index that is demonstrative of the fatty oil drying:
Correct answer	Iodine absorption number
B	Acid number
C	Saponification number

D	Ester number
E	Peroxide number
№	krok 2014
Topic	antraquinons
Task	Buckthorn bark is used as a laxative. Specify the period for procurement of raw material of alder buckthorn bark:
Correct answer	Spring, during the circulation of sap
B	The period of full ripeness
C	Winter
D	Frondescence
E	Autumn
№	krok 2012, 2010
Topic	common phenols
Task	A patient came to a drugstore and ordered cowberry leaves. Which of the available herbal raw materials can be offered as a substitute?
Correct answer	<i>Folium Uvae ursi</i>
B	<i>Rizoma Calami</i>
C	<i>Rizoma et radix Sanquisorbae officinalis</i>
D	<i>Herba Achilleae millefolii</i>
E	<i>Radix Taraxaci officinalis</i>
№	krok 2012
Topic	antraquinons
Task	Medicinal plant <i>Rhamnus cathartica</i> is used as a laxative. What part of this plant is used as herbal raw material?
Correct answer	Fruits
B	Leaves
C	Rind
D	Roots
E	Shoots
№	krok 2012
Topic	alcaloids
Task	Select a reagent that should be applied by an analytical chemist in order to detect alkaloids in the herbal raw material:
Correct answer	Dragendorff reagent

B	Bromine water
C	Alkaline solution
D	Stahl's reagent
E	Trim-Hill reagent
№	krok 2012
Topic	Antracenes
Task	Preparations of sorrel roots can have both a laxative and astringent effect. This is due to the presence of the following biologically active substances:
Correct answer	Anthracene derivatives and tannins
B	Flavonoids and essential oils
C	Essential and fatty oils
D	Coumarins and phenol glycosides
E	Iridoids and vitamins
№	krok 2012, 2010, 2013
Topic	antracenes
Task	Emodin, an anthracene derivative, has purgative effect. Large quantities of anthracene-derived groups of emodin are contained in the fruits of the following plant:
Correct answer	Buckthorn
B	Elder (<i>Sambucus</i>)
C	Blackcurrant
D	Blueberry (<i>Vaccinium myrtillus</i>)
E	Alder buckthorn (<i>Frangula alnus</i>)
№	krok 2012
Topic	Different groups of bac
Task	The possible admixture in the crop of raw coltsfoot leaves (<i>Tussilago farfara</i>) is the leaf of:
Correct answer	Cotton burdock (<i>Arctium tomentosum</i>)
B	Common plantain
C	Nettle
D	Marshmallow (<i>Althaea officinalis</i>)
E	<i>Primula officinalis</i>
№	krok 2012, 2009

Topic	Lipids
Task	In order to determine the purity a drop of lavender essential oil was applied on a strip of filter paper and warmed up in the stream of warm air. Some time later the stain increased in diameter. What ty substance was found in the lavender oil?
Correct answer	Fatty or mineral oil
B	Phenol
C	Ethanol
D	Acetone
E	Diethyl ether
№	krok 2012
Topic	flavonoids
Task	A pharmacy received a batch of raw material - chamomile flowers. How should this material be stored?
Correct answer	Separately from all other kinds of raw material
B	According to the list B requirements
C	According to the list A requirements
D	As a narcotic raw material
E	In a light room
№	krok 2012
Topic	Morphology
Task	It is necessary to analyze herbal raw material in form of black glossy drupes 6-8 mm in diameter, with a large, firm, globular, light brown kernel containing one seed. The drupes have sweet and slightly astringent taste. This herbal raw material should be identified as fruits of:
Correct answer	Bird cherry
B	Blueberry
C	Black chokeberry
D	Buckthorn
E	Hawthorn
№	krok 2012, 2009
Topic	cardiac glycosides
Task	One of the methods of quantitative analysis of active substances in the raw material is the biological standardization. It can be applied with the following group of biologically active substances:
Correct answer	Cardiac gliycosides

B	Alkaloids
C	Fatty oils
D	Tannins
E	Mucilages
№	krok 2012, 2010
Topic	Saponins
Task	A phytopreparation "Flacarbinum" has spasmolytic, anti-inflammatory and antiulcer effect. This preparation is produced out of the following plant:
Correct answer	Licorice (<i>Glycyrrhiza</i>)
B	Jacob's ladder blue (<i>Polemonium caeruleum</i>)
C	Buckeye (<i>Aesculus</i>)
D	Mountain angelica (<i>Aralia mandshurica</i>)
E	Pot marigold (<i>Calendula officinalis</i>)
№	krok 2012, 2011
Topic	flavonoids
Task	The main active components of hawthorn berries are flavonoids. What is their pharmacological effect?
Correct answer	Hypotensive and sedative
B	Laxative and sedative
C	Tonic and antispasmodic
D	Diuretic and styptic
E	Antispasmodic and anti-inflammatory
№	krok 2012, 2010
Topic	lipids
Task	Fatty oil containing unsaturated fatty acids is used for the prevention of atherosclerosis. Specify the herbal raw material used for oil production:
Correct answer	Seeds of flax
B	Seeds of fennelflower
C	Fruits of dill
D	Fruits of black chokeberry
E	Hawthorn berries
№	krok 2012, 2011, 2010

Topic	morphology
Task	A laboratory received some herbal raw material for analysis. It is a composition of ovoid pointed leaves up to 25 cm long and 20 cm wide; the leaf base is cuneate, the leaf edge is emarginate, The cutting is long and cylindric. The leaf venation is pinnatisect; the midrib and the first-order veins project significantly on the inferior surface of the leaf. The superior leaf surface is dark green, the inferior surface is light green. The plant has a weak narcotic smell. The taste cannot be determined. The plant is poisonous! The described herbal raw material relates to the following plant:
Correct answer	<i>Datura stramonium</i>
B	<i>Passiflora incarnata</i>
C	<i>Chelidonium majus</i>
D	<i>Vinca minor</i>
E	-
№	krok 2012
Topic	commodity analysis
Task	Admixtures can get into the herbal raw material during harvesting, drying and primary processing. Mineral admixtures include:
Correct answer	Sand, earth, stones
B	Metal objects
C	Other similar plants
D	Droppings of birds and rodents
E	Other organs of the same plant
№	krok 2012, 2011, 2010
Topic	saponins
Task	Preparations made out of 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 made of the following raw material:
Correct answer	Ginseng roots
B	Elecampane roots
C	Rhizomes and roots of valerian
D	Polemonium roots
E	Acorus calamus roots
№	krok 2017-2018
Topic	alcaloids

Task	Vitali-Morin's reaction is used to identify tropane alkaloids in herbal raw material. Name the alkaloid that can be detected by means of this specific reaction:
Correct answer	Scopolamine
B	Codeine
C	Morphine
D	Platyphyllin
E	Papaverine
No	krok 2017-2018
Topic	tannins
Task	What herbal bioactive substances yield a positive reaction with ferric ammonium alum solution?
Correct answer	Tannins
B	Saponins
C	Polysaccharides
D	Bitters
E	Fatty oils
No	krok 2017-2018
Topic	cardiac glycosides
Task	Standard herbal material of lily-of-the-valley is obtained by drying it at a temperature of 50-60°C to prevent the following possible biochemical process:
Correct answer	Enzymatic hydrolysis of cardiac glycosides
B	Oxidation of phenolic compounds
C	Volatilization of essential oils
D	Oxidation of resins
E	Oxidation of terpenoids
No	krok 2017-2018
Topic	antraquinones
Task	Proper harvesting of <i>Frangula alnus</i> herbal raw material greatly influences the quality and quantity of its active substances. Therefore the optimal time for buckthorn bark harvesting is the period of:
Correct answer	Sap flow
B	Fruiting
C	Flowering

D	Defoliation
E	Dormancy
№	krok 2017-2018
Topic	indol's alcaloids
Task	Drugs derived from <i>Rauvolfia serpentina</i> roots are used in hypertension treatment. Authenticity of <i>Rauvolfia serpentina</i> herbal raw material can be confirmed by its content of:
Correct answer	Reserpine
B	Atropine
C	Hyoscyamine
D	Vinblastine
E	Adonitoxin
№	krok 2017-2018
Topic	: cardiac glycosides
Task	Medications <i>Passit</i> and <i>Novopassit</i> are used as tranquilizing, sedative and mild hypnotic agents. These medications are produced from the following grass:
Correct answer	Purple passionflower
B	Three-lobe beggarticks
C	Garden sage
D	Elecampane
E	Lesser periwinkle
№	krok 2017-2018
Topic	: polysaccarides
Task	During microscopy of althaea root it is necessary to determine the presence of starch granules within the plant cells. What reagent enables such analysis?
Correct answer	Lugol's solution
B	Ammonium hydroxide
C	Concentrated sulfuric acid
D	Alcohol solution of α -naphthol
E	Thymol solution
№	krok 2017-2018
Topic	Anthracenes, tannins

Task	Preparations of sorrel roots can have both a laxative and astringent effect. This is due to the presence of the following biologically active substances:
Correct answer	Anthracene derivatives and tannins
B	Flavonoids and essential oils
C	Essential and fatty oils
D	Coumarins and phenol glycosides
E	Iridoids and vitamins
№	krok 2017-2018
Topic	flavonoids
Task	Motherwort grass is a component of hypotensive and sedative drugs. This herbal raw material should be harvested taking into account its renewal rate. Therefore it can be harvested:
Correct answer	Once every 5 years
B	Once every 2 years
C	Once every 3 years
D	Once every 10 years
E	Every year
№	krok 2017-2018
Topic	the basis for the procurement of medicinal plant raw materials
Task	A certain type of herbal raw material is being harvested in spring during sap flow. Specify this material:
Correct answer	Bark
B	Flowers
C	Buds
D	Roots
E	Infructescences
№	krok 2017-2018
Topic	resource's science
Task	To determine the quantity of wild-growing medicinal plants, it is necessary to know their area of vegetation and yield per unit area. Yield of <i>Thymus serpyllum</i> grass can be determined by the following method:
Correct answer	Projective cover method
B	Permanent quadrat method
C	Visually

D	Model sample method
E	Geodesically
№	krok 2017-2018
Topic	alkaloids
Task	Codeine is used as a cough-depressant. What herbal raw material contains this alkaloid?
Correct answer	Pods of opium poppy
B	Grass of plume poppy
C	Celandine grass
D	Grass of common periwinkle
E	Tea leaves
№	krok 2017-2018
Topic	alkaloids
Task	What herbal drug produced from alkaloid-containing raw materials can be recommended for neurasthenia, insomnia, menopausal disorders?
Correct answer	Novopassit
B	Ergotamine
C	Glaucine hydrochloride
D	Securinine nitrate
E	Vinblastine
№	krok 2017-2018
Topic	microscopic analysis
Task	A teenager with hyporexia has been recommended to drink medicinal herbal tea of the following composition: <i>Herba Absinthii</i> , <i>Herba Millefolii</i> . Specify the characteristic microscopic features of <i>Artemisia absinthium</i> , which indicate its presence in the herb mixture:
Correct answer	T-shaped hairs along the leaf edge
B	Simple and capitate hairs
C	Branched, simple and ciliated hairs
D	Retor-shaped hairs
E	Branched and capitate hairs
№	krok 2017-2018
Topic	steroid's sapogenines; alkaloids

Task	Representatives of the family <i>Solanaceae</i> are widely used in medical practice as alkaloid-containing plants. Which representative is the source for production of semi-synthetic steroid hormones?
Correct answer	<i>Solanum laciniatum</i>
B	<i>Atropa belladonna</i>
C	<i>Datura Stramonium</i>
D	<i>Hyoscyamus niger</i>
E	<i>Solanum tuberosum</i>
№	krok 2017-2018
Topic	Essential oils
Task	Birch buds are used as a diuretic. Quality of the herbal raw material is determined by its content of:
Correct answer	Essential oil
B	Vitamins
C	Lipids
D	Iridoids
E	Saponins
№	krok 2017-2018
Topic	tropan's alcaloides
Task	Standardization of a certain herbal raw material is done by calculating its alkaloid content in terms of hyoscyamine. Name this herbal raw material:
Correct answer	<i>Folia Belladonnae</i>
B	<i>Radices Berberidis</i>
C	<i>Herba Chelidonii</i>
D	<i>Herba Thermopsisidis lanceolatae</i>
E	<i>Fructus Capsici</i>
№	krok 2017-2018
Topic	Iridoids
Task	Valerian roots and rhizomes are processed in the phytochemistry workshop to produce tinctures and thick extracts that are the components of combined sedatives. Name the group of bioactive compounds that includes valerian valepotriates, - valtrate, acevaltrate, and dihydrovaltrate:
Correct answer	Iridoids
B	Essential oils

C	Alkaloids
D	Polysaccharides
E	Saponins
№	krok 2017-2018
Topic	Anthraquinones
Task	Specialists of a pharmaceutical enterprise confirm the identity of <i>Cassia acutifolia</i> herbal raw material. During reaction with alkali it developed cherry-red coloring. What substances were identified?
Correct answer	Anthraquinones
B	Tannins
C	Alkaloids
D	Glycosides
E	Iridoids
№	krok 2017-2018
Topic	essential oils
Task	Menthol has anesthetic and antiseptic effect. What plant is the source of menthol?
Correct answer	<i>Folia Menthae piperitae</i>
B	<i>Folia Uvae ursi</i>
C	<i>Folia Eucalypti</i>
D	<i>Folia Salviae</i>
E	<i>Folia Absinthii</i>
№	krok 2017-2018
Topic	essential oils
Task	The thyme grass is used for the production of herbal medical products for the treatment of respiratory tract infections. Under the State Pharmacopoeia of Ukraine the herbal raw material is subject to chromatographic identification by means of thin layer chromatography. What substances are detected on the chromatographic plate after its treatment with due reagent?
Correct answer	Thymol and carvacrol
B	Atropine and hyoscyamine
C	Quercetin and rutin
D	Apigenin and luteolin
E	Arbutin and methyl arbutin
№	krok 2017-2018

Topic	essential oils
Task	Yarrow grass is a component of herbal gastrointestinal remedies and is used to make herbal drugs. According to the State Pharmacopoeia of Ukraine the quality of this herbal raw material is assessed by its content of:
Correct answer	Essential oils and proazulenes
B	Alkaloids
C	Polysaccharides
D	Cardiac glycosides
E	Vitamines
№	krok 2017-2018
Topic	proteins
Task	Snake venom-based drugs are widely applied in treatment of locomotor apparatus diseases. Main components of these venoms are:
Correct answer	Toxic proteins
B	Alkaloids
C	Cardiac glycosides
D	Glucosinolates
E	Phenol-alcohols
№	krok 2017-2018
Topic	vitamins
Task	The cholagogue derived from <i>Rosa canina</i> fruit is used in treatment of liver and gallbladder diseases. Name this drug:
Correct answer	Cholosas
B	Chophytol
C	Phytolyt
D	Allochol
E	Altan
№	krok 2017-2018
Topic	coumarins
Task	A medicinal plant contains hydroxycoumarins and is used in production of venotonic agents. Name the herbal raw material harvested from this plant:
Correct answer	<i>Semina Hippocastani</i>
B	<i>Herba Meliloti</i>
C	<i>Fructus Ammi majoris</i>

D	<i>Fructus Pastinacae sativae</i>
E	<i>Fructus Dauci carotae</i>
№	krok 2017-2018
Topic	anthracenes
Task	Senna (cassia) foliage contains anthracene derivatives. Their presence can be confirmed by qualitative reaction with:
Correct answer	Alkali
B	Molisch's reagent
C	Iron ammonium alum
D	Iron (II) sulfate
E	Fehling's reagent
№	krok 2017-2018
Topic	cardiac glycosides
Task	Digoxin is given to the patients with chronic heart failure. What medicinal plant that contains cardiac glycoside is a source of this medicinal substance?
Correct answer	<i>Digitalis lanata</i>
B	<i>Erysimum canescens</i>
C	<i>Strophanthus kombe</i>
D	<i>Adonis vernalis</i>
E	<i>Convallaria majalis</i>
№	krok 2017-2018
Topic	alcaloides
Task	Vinblastine and Vincristine demonstrate antitumor activity. Name the herbal raw material used in production of these medicines:
Correct answer	<i>Folia Catharanthi rosei</i>
B	<i>Herba Vincae minoris</i>
C	<i>Rhizomata Nupharis lutei</i>
D	<i>Folia Berberidis</i>
E	<i>Herba Selaginis</i>
№	krok 2017-2018
Topic	iridoides

Task	A pharmaceutical warehouse received a herbal raw material that consists of "cones" with loose scales that are attached to a firm twig with or without fruits. Its collective fruits are pale green, fragrant, and bitter. Name the plant from which this herbal raw material was harvested:
Correct answer	<i>Humulus lupulus</i>
B	<i>Alnus incana</i>
C	<i>Juniperus communis</i>
D	<i>Rubus idaeus</i>
E	<i>Olea europeaea</i>
№	krok 2017-2018
Topic	Essential oils
Task	Essential oil of a certain plant contains up to 80% of cineole. Specify the herbal raw material that is collected from this plant:
Correct answer	<i>Folia Eucalypti</i>
B	<i>Folia Betulae</i>
C	<i>Folia Menthae piperitae</i>
D	<i>Folia Melissa</i>
E	<i>Folia Absinthii</i>
№	krok 2017-2018
Topic	cardiac glycosides
Task	To identify cardiac glycosides there are usually three groups of color reactions being performed: for steroid nucleus, for lactonic ring, and for carbohydrate component. Specify the reaction for identification of butenolide ring:
Correct answer	Legal's test
B	Stahl's reaction
C	Mayer's test
D	Reaction of sublimation
E	Dragendorff's test
№	krok 2017-2018
Topic	lipids
Task	What fatty oil is nondrying due to its oleic acid glyceride content?
Correct answer	<i>Ricini oleum</i>
B	<i>Helianthi oleum</i>
C	<i>Maydis oleum</i>

D	<i>Cucurbitae oleum</i>
E	<i>Lini oleum</i>
№	krok 2017-2018
Topic	tannins
Task	Several species of <i>Polygonum</i> genus are used in medicine. One of these species has rootstocks rich in tanning agents, which are used to treat diarrrhea. Name this species:
Correct answer	<i>Polygonum bistorta</i>
B	<i>Polygonum hydropiper</i>
C	<i>Polygonum persicaria</i>
D	<i>Polygonum aviculare</i>
E	<i>Polygonum alpinum</i>
№	krok 2017-2018
Topic	alcaloides
Task	Hyoscyamine and scopolamine are typically contained in the plants of the following family:
Correct answer	<i>Solanaceae</i>
B	<i>Asteraceae</i>
C	<i>Papaveraceae</i>
D	<i>Apocynaceae</i>
E	<i>Fabaceae</i>
№	krok 2017-2018
Topic	anthracenes
Task	Spectrophotometric analysis of anthracene derivatives contained in buckthorn bark is based on the following reaction:
Correct answer	Production of phenolates with alkali- ammonia solution
B	Oxidation of anthracene derivatives
C	Anthraquinone reduction
D	Salt precipitation
E	Sublimation
№	krok 2017-2018
Topic	flavonoides
Task	A certain herbal raw material is used to make <i>Flamin</i> cholagogue. Name this material:
Correct answer	<i>Helichrysi arenarii flores</i>

B	<i>Meliloti herba</i>
C	<i>Violae herba</i>
D	<i>Tanacetii flores</i>
E	<i>Crataegi flores</i>
№	krok 2017-2018
Topic	Anthracenes
Task	In the process of phytochemical examination of buckthorn bark, the reaction with alkaline solution resulted in red coloring, which indicates the presence of the following:
Correct answer	Anthracene derivatives
B	Saponins
C	Alkaloids
D	Flavonoids
E	Slime
№	krok 2017-2018
Topic	alcaloides
Task	<i>Atropa belladonna</i> grass extract is a component of compound antispasmodic drugs. Select such drug from the list:
Correct answer	Bellasthesin
B	Olimetinum
C	Solutan
D	Urolesan
E	Herbogastrine
№	krok 2017-2018
Topic	flavonoides
Task	A pharmaceutical warehouse has received a batch of herbal raw material hawthorn flowers. Merchandise analysis revealed in one of the sacks significant amount of bird-cherry flowers besides the hawthorn. What quality assessment of the herbal raw material should be performed?
Correct answer	Acceptable admixtures
B	Mineral admixtures
C	Moisture content
D	Ash values (Total ash)
E	Extractive values

№	krok 2017-2018
Topic	anhtracenes
Task	Buckthorn bark and its derivative drugs are used as laxatives in medicine. According to the State Pharmacopoeia of Ukraine, during chromatographic identification of buckthorn bark it is necessary to detect:
Correct answer	Glucofrangulins
B	Panaxosides
C	Lanatosides
D	Ginkgosides
E	Purpurea glycosides
№	krok 2017-2018
Topic	flavonoides
Task	<i>Helichrysum arenarium</i> herbal raw material has anti-inflammatory and choleric effect. What parts of this plant are harvested?
Correct answer	Flowers
B	Grass
C	Rhizomes
D	Fruits
E	Roots
№	krok 2017-2018
Topic	commodity analysis
Task	A substance was received for analysis. The substance is a round seed 1-1,8 mm in diameter, yellow with bluish tint. When mashed with water, emits characteristic irritant odor; is sharp and acrid to taste. The raw material can be identified as:
Correct answer	Mustard seeds
B	Flax seeds
C	<i>Plantago psyllium</i> seeds
D	Fenugreek seeds
E	Nigella seeds
№	krok 2017-2018
Topic	anhtracenes
Task	What effect will anthracene derivatives have, if -OH- groups are located in both benzene rings of anthraquinone?
Correct answer	Laxative
B	Diuretic

C	Litholytic
D	Sedative
E	Choleretic