

MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

DEPARTMENT OF GENERAL AND CLINICAL PHARMACOLOGY  
WITH THE PHARMACOGNOSY

**CLINICAL PHARMACY AND PHARMACEUTICAL**  
**CARE**

**METHODICAL MANUAL**

for self-work of students of the Pharmaceutical Faculty of full-time form of study  
for the licensed test examination "Step-2. Pharmacy"

Compilers:

Strechen S.B., Shemonayeva K.F.,

Poludenko A.A.

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cycle methodological commission on pharmacy

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## TOPIC 1. Clinical pharmacokinetics and pharmacodynamics

No	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	A 25-year-old patient has been prescribed sumatriptan for the treatment of migraine attacks. Specify the mechanism of action of this drug:	<p><b>A * Selective 5-HT<sub>1</sub>-serotonin receptor agonist</b></p> <p><b>B Selective 5-HT<sub>1</sub>-serotonin receptor antagonist</b></p> <p><b>C Non-selective <math>\alpha</math>-blocker</b></p> <p><b>D <math>\beta</math>-Adrenoceptor stimulator</b></p> <p><b>E Selective <math>\alpha</math>-blocker</b></p>	Sumatriptan belongs to the group of triptanes that stimulate the appropriate type of serotonin receptors, located mainly in the vessels of the brain, which leads to their narrowing and treatment of migraine symptoms.
2	A pregnant woman of 38 years, suffering from type II diabetes mellitus (non-insulin dependent), the drug of choice is:	<p><b>A * Insulin</b></p> <p><b>B Glibenclamide</b></p> <p><b>C Metformin</b></p> <p><b>D Tolbutamide</b></p> <p><b>E Buformin</b></p>	Regardless of the type of diabetes, pregnancy requires the transfer of a woman to use insulin; other means are contraindicated.
3	Specify how to use oriblettae tablets:	<p><b>A * Oral</b></p> <p><b>B Sublingual</b></p> <p><b>C Dimplants</b></p> <p><b>D Vaginally</b></p> <p><b>E To prepare solutions</b></p>	A form created specifically for inside application.
4	Which local anesthetic is best to buy at a pharmacy for toothache extraction?	<p><b>A * Lidocaine</b></p> <p><b>B Dicaine</b></p> <p><b>C Anestesine</b></p> <p><b>D Sovcaine</b></p> <p><b>E Cocaine</b></p>	Lidocaine in various forms of release (spray, injection) is used in dentistry for local anesthesia.
5	A patient with epilepsy was prescribed a diuretic drug. Identify this drug:	<p><b>A * Diacarb</b></p> <p><b>B Verospiron</b></p> <p><b>C Furosemide</b></p> <p><b>D Hypothiazide</b></p> <p><b>E Mannit</b></p>	One of the mechanisms of clinical symptoms of epilepsy is an increase in intracranial pressure. Diacarb is the only diuretic listed that inhibits the activity of carboanhydrase, an enzyme involved in the production of intraocular liquor.
6	Which of the following medications is related to the pituitary gland?	<p><b>A * Oxytocin</b></p> <p><b>B Insulin</b></p> <p><b>C Prednisolone</b></p> <p><b>D Tyreoidin</b></p> <p><b>E Estron</b></p>	Oxytocin, which affects the tone of the uterus, is synthesized in the pituitary gland. Other hormones are in the pancreas, adrenal glands, thyroid gland.
7	Hypoglycemic action of which drug is caused by stimulation of pancreatic $\beta$ -cells?	<p><b>A * Glibenclamide</b></p> <p><b>B Prednisolone</b></p> <p><b>C Adrenaline hydrochloride</b></p> <p><b>D Retabolil</b></p> <p><b>E Heparin</b></p>	Of these, only glibenclamide lowers serum glucose with an appropriate mechanism of action.
8	A 55-year-old man complains of insomnia, irritability, and general weakness. Which of the following drugs is appropriate in this case?	<p><b>A * Nitrazepam</b></p> <p><b>B Aminazine</b></p> <p><b>C Triftazine</b></p>	These patient complaints can be normalized by the use

		<i>D Droperidol</i> <i>E Amitriptyline</i>	of a nitrazepam tranquilizer, which has all the effects.
9	What pathological conditions of the organism contribute to the accumulation of drugs?	<i>A * Liver and kidney disease</i> <i>B Respiratory tract diseases</i> <i>C Disease of the central nervous system</i> <i>D Disease of connective tissue</i> <i>E Diseases of the musculoskeletal system</i>	The accumulation of drugs depends primarily on the functional condition of the organs involved in their biotransformation and excretion, namely the liver and kidneys.
10	The patient has hyperchromic B12-deficiency anemia. What drug should he prescribe?	<i>A * Cyanocobalamin</i> <i>B Riboflavin</i> <i>C Vicasol</i> <i>D Thiamine chloride</i> <i>E Retinol acetate</i>	This type of anemia is associated with vitamin B12 deficiency. Cyanocobalamin is a substitute for this vitamin, so it is intended for the treatment of appropriate anemia.
11	Due to which pharmacological effect is diazepam used to treat neuroses?	<i>A * Anxiolytic</i> <i>B Analgesic</i> <i>C Diuretic</i> <i>D Antipyretic</i> <i>E Antidepressive</i>	The anxiolytic effect involves the inhibition of tranquilizers (diazepam) by the feeling of fear and anxiety.
12	The doctor prescribed a drug to the patient with glaucoma in the form of ophthalmic drops. Which pharmacological group is this drug included in?	<i>A * Anticholinesterase reverse action</i> <i>B M -cholinoblocker</i> <i>C N-cholinomimetic</i> <i>D <math>\beta</math>-blocker</i> <i>E <math>\beta</math>-adrenomimetic</i>	The above answer is correct because proserin belongs to this pharmacological group.
13	In patients with renal colic, a spasmolytic from a group of M-cholinoblockers was included in complex therapy, namely:	<i>A * Atropine</i> <i>B Proserine</i> <i>C Halantamine</i> <i>D Ditoline</i> <i>E Benzohexonium</i>	Atropine is a non-selective M-cholinoblocker with possible antispasmodic activity.
14	For individual prevention of malaria the following drug was prescribed:	<i>A * Chingamin</i> <i>B Rifampicin</i> <i>C Ampicillin</i> <i>D Gentamicin</i> <i>E Biseptol (Co-trimaxazole)</i>	Chingamine is a top priority for malaria. Other drugs are not used in malaria, do not affect the development of plasmid malaria.
15	Patient for the treatment of allergic dermatitis appointed loratadine. What is the mechanism of anti-allergic action of the drug?	<i>A * Suppression of H1-histamine receptors</i> <i>B Suppression of H2-histamine receptors</i> <i>C D4-leukotriene receptor blockade</i> <i>D Decrease in leukotriene release</i> <i>E Antiserotonin activity</i>	Allergy symptoms are related to the effect of histamine on the first type of receptor. Loratadine decreases the sensitivity of these receptors to histamine, so it is used to treat allergy.
16	The doctor prescribed a patient drug for the treatment of bleeding. What kind?	<i>A * Vicassol</i> <i>B Insulin</i> <i>C Metoprolol</i> <i>D Heparin</i> <i>E Dichlorothiazide</i>	Only vikasol from these answers has a hemostatic effect and is intended for the treatment of bleeding.
17	For the treatment of brain edema it is necessary to appoint a diuretic. Which drug should be administered to the patient?	<i>A * Furosemide</i> <i>B Hydrochlorothiazide</i> <i>C Caffeine Sodium</i>	Of these diuretic drugs, only furosemide has a fast, strong and

		<b>Benzoate</b> <b>D Diacarb</b> <b>E Spironolactone</b>	short-lasting effect that allows its use in acute brain edema.
18	The patient was prescribed L-thyroxine after removal of the thyroid gland. What type of pharmacotherapy does L-thyroxine provide?	<b>A * Replacement</b> <b>B Pathogenetic</b> <b>C Etiotropic</b> <b>D Stimulating</b> <b>E Prophylaxis</b>	Removal of part of the thyroid gland is accompanied by a decrease in the production of thyroid hormones, which further requires constant replacement therapy with thyroid hormone preparations.
19	With prolonged use of phenobarbital, tolerance to the drug has developed in ailing with epilepsy. Why lie in the foundation of the given apparition?	<b>A * Accelerated biotransformation</b> <b>B Loosening up the process</b> <b>C Sensitive receptors</b> <b>D Introduction of biotransformation</b> <b>E The accumulation of speech in the body</b>	Phenobarbital is an inducer of liver microsomal enzymes. This reduces the effectiveness of long-term use.
20	The patient receives levodopa due to Parkinson's disease. What is the mechanism of action of this remedy?	<b>A * Is a precursor to dopamine</b> <b>B Is the precursor to steroid hormones</b> <b>C Blocks dopamine degradation</b> <b>D Is a precursor of acetylcholine</b> <b>E Is a sympathetic</b>	Levodopa is a precursor to dopamine synthesis, which determines the correctness of the response.
21	A 17-year-old patient complains of constant thirst, dry mouth, frequent urination, and increased appetite. Blood glucose is 11 mmol/l. The doctor diagnosed with type I diabetes. Which drug is indicated for treatment?	<b>A * Insulin</b> <b>B Maninil</b> <b>C Glibenclamide</b> <b>D Acarbose</b> <b>E Metformine</b>	These symptoms at this age are typical for the formation of type I diabetes, which is a direct indication of the use of insulin as a replacement therapy.
22	When conducting a biochemical examination of the blood, the patient revealed a decreased amount of serum iron. For which disease are these changes characteristic?	<b>A * Iron deficiency anemia</b> <b>B Acute bronchitis</b> <b>C Bronchial asthma</b> <b>D Pneumonia</b> <b>E Bronchoectatic disease</b>	Iron is involved in the synthesis of heme. Decreasing its level leads to the development of iron deficiency anemia.
23	To eliminate delusions and hallucinations in a schizophrenic patient, a doctor used aminazine. What is the mechanism of antipsychotic action of the drug?	<b>A * Inhibition of dopaminergic processes in the CNS</b> <b>B Stimulation of adrenergic and dopaminergic processes in the CNS</b> <b>C. Stimulation of cholinergic processes in the CNS</b> <b>D Inhibition of cholinergic processes in the CNS</b> <b>E Inhibition of adrenergic processes in the CNS</b>	Aminazine is a neuroleptic that inhibits the activity of dopaminergic processes in the CNS and thus inhibits the activity of the CNS.
24	Patient of 15 years for the first time found diabetes mellitus type I. What type of drug should be	<b>A * Insulin</b> <b>B Metformin</b>	Diagnosed in childhood, type I

	prescribed?	<i>C Diabeton</i> <i>D Glurenorm</i> <i>E Glibenclamide</i>	diabetes is a direct indication for the administration of insulin.
25	What is the name of a medicine's ability to accumulate in a patient's body?	<i>A * Cumulation</i> <i>B Antagonism</i> <i>C Synergism</i> <i>D Addictive</i> <i>E Allergy</i>	Cumulation is the accumulation of a biologically active substance or its effects upon repeated exposure to drugs on the body.
26	For the treatment of urticaria with the aim of eliminating itching rash on the skin of the patient is prescribed diphenhydramine. What mechanism provides its effect?	<i>A * Competitive blockade of H1-histamine receptors</i> <i>B Suppression of histamine synthesis</i> <i>C Suppression of histamine release</i> <i>D Acceleration of histamine destruction</i> <i>E Noncompetitive histamine antagonism</i>	H1-histamine blockers of the first generation, namely to them dimedrol, provide anti-allergic action due to competitive blockade of the corresponding receptors of the skin.
27	The patient has dry mucous membranes and impaired vision. What vitamin deficiency causes these symptoms?	<i>A * A</i> <i>B P</i> <i>C E</i> <i>D C</i> <i>E D</i>	These clinical symptoms are characteristic of a deficiency of fat-soluble vitamin A.
28	Which M-cholinimimetics drug should be prescribed for a patient with glaucoma?	<i>A * Pilocarpine</i> <i>B Lidocaine</i> <i>C Atropine sulfate</i> <i>D Dobutamine</i> <i>E Nitrazepam</i>	Of these drugs, only pilocarpine is an M-cholinomimetic agent and is intended for the treatment of glaucoma.
29	The man was diagnosed with Parkinson's disease. What is the best way to appoint a patient?	<i>A * Levodopa</i> <i>B Nitrazepam</i> <i>C Paracetamol</i> <i>D Aminazine</i> <i>E Anapriline</i>	Levodopa contains a metabolic precursor to dopamine, which by decarboxylation in the CNS replaces its deficiency in nerve cells and is used in Parkinson's disease.
30	The doctor prescribed a patient with hypothyroidism, which has a replacement effect. Which of the following medications did the doctor prescribe?	<i>A * L-thyroxine</i> <i>B Adrenaline</i> <i>C Mercasolyl</i> <i>D Amiodarone</i> <i>E Pacetamol</i>	Hypothyroidism is defined as a condition with impaired thyroid function. For the treatment of the symptoms of the disease, substitution therapy with the hormone (L-thyroxine) is used.
31	The patient was prescribed a benzodiazepine group to treat convulsive syndrome. Name this drug:	<i>A * Diazepam</i> <i>B Caffeine Sodium Benzoate</i> <i>C Naloxone</i> <i>D Levodopa</i> <i>E Suxamethonic chloride</i>	Diazepam refers to tranquilizers of benzodiazepine derivatives in which, among other effects, anticonvulsant is present. Other drugs do not have this effect.
32	Patient with allergic dermatitis was assigned suprastin. Which group of anti-allergic agents does this drug belong to?	<i>A * H-1-histamine receptor blockers</i> <i>B Glucocorticosteroids</i> <i>C Muss cell degranulation inhibitors</i>	Suprastin (chloropyramine) refers to H1-histamine blockers that meet the conditions of the task.

		<i>D Leukotriene receptor antagonists</i> <i>E H-2-histamine receptor blockers</i>	
33	A doctor from a group of tricyclic antidepressants was prescribed a depression patient. Name this drug:	<i>A * Amitriptyline</i> <i>B Fenazepam</i> <i>C Droperidol</i> <i>D Ainalon</i> <i>E Caffeine</i>	There are many groups of antidepressants. However, the group tricyclic include amitriptyline. It should be noted that the other listed drugs do not belong to the group of antidepressants.
34	What does the pharmacokinetic parameter of the drugs reflect as a half-life (T <sub>1/2</sub> )?	<i>A * The time interval for which the concentration of the drug in the blood plasma decreases by 50%</i> <i>B The volume of blood plasma released from a drug per unit time</i> <i>C The time of complete elimination of the drug from the body</i> <i>D The rate of excretion of the drug through the kidneys</i> <i>E Ratio between the rate of excretion of a drug and its concentration in blood plasma</i>	The time interval for which the concentration of the drug in the blood plasma decreases by 50%
35	The relative amount of a drug coming from the site of introduction to the systemic circulation is called:	<i>A * Bioavailability</i> <i>B The semi-adsorption period</i> <i>C Half-life</i> <i>D The volume of distribution</i> <i>E Half-life period</i>	Bioavailability is the main indicator responsible for the amount of drugs reaching the systemic bloodstream and its site of action.
36	Help your doctor choose a narcotic analgesic that can be used for pain relief in delivery?	<i>A * Promedol</i> <i>B Paracetamol</i> <i>C Codeine phosphate</i> <i>D Fentanil</i> <i>E Analgin</i>	Of these drugs promedol and fentanyl are narcotic analgesics. In this case, it is possible to use a promedole, it has an additional effect on the smooth muscles of the uterus and it does not inhibit the respiratory center.
37	The doctor prescribed diazepam to a patient of 30 years with a disorder of sleep and imbalance of the psycho-emotional sphere. What causes the psycho-sedative effect of the drug?	<i>A * Activation of the GABA-ergic system</i> <i>B Braking the limbic system</i> <i>C Retinal retardation</i> <i>D Decrease in the amount of norepinephrine in the CNS</i> <i>E Blocking of opioid receptors</i>	The specific interaction of tranquilizers (diazepam) with benzodiazepine receptors of postsynaptic GABA complexes provides their main pharmacological effects.
38	The woman has a prolonged period of labor. From the listed drugs, choose the one that stimulates childbirth activity, due to the physiological action:	<i>A * Oxytocin</i> <i>B. Transserine</i> <i>C Pachycarpin</i>	Clinical and pharmacological properties of the drug

		<b>D Progesterone</b> <b>E Estron</b>	oxytocin correspond to the properties of the endogenous hormone oxytocin, which is produced by the posterior lobe of the pituitary gland.
39	From the following diuretics, choose a loop diuretic of emergency, strong and short-lasting action:	<b>A * Furosemide</b> <b>B Clopamide</b> <b>C Diacarb</b> <b>D Spironolactone</b> <b>E Triamterene</b>	Furosemide refers to loop diuretics that have these effects.
40	One of the main indicators of elimination of drugs from the human body is:	<b>A * Half-life</b> <b>B The volume of distribution</b> <b>C Bioavailability</b> <b>D Bioequivalence</b> <b>E Maximum concentration in blood</b>	The half-life shows the time during which the concentration of the drug decreases by half, so during this time it is necessary to maintain its therapeutic concentration.
41	The patient turned to the ophthalmologist with complaints of decreased night vision, corneal dryness. What drug did the doctor prescribe?	<b>A * Retinol</b> <b>B Pyridoxine</b> <b>C Tocopherol</b> <b>D Ascorbic acid</b> <b>E Cocarboxylase</b>	These complaints are characteristic of the development of hemeralopathy associated with a deficiency in vitamin A (retinol acetate).
42	After suffering a traumatic brain injury, the doctor prescribed piracetam to the patient. Which pharmacological group is this drug included in?	<b>A * Nootropic drugs</b> <b>B Narcotic analgesics</b> <b>C Tranquilizers</b> <b>D Anesthetic agents</b> <b>E Neuroleptics</b>	Piracetam (nootropil) belongs to a group of nootropics that meets the conditions of the task.
43	An inter-hospital pharmacy received an order from a surgical department to receive a drug from the group of muscle relaxants depolarizing type of action for surgical interventions. What drug was ordered?	<b>A * Dithyline</b> <b>B Nicotine</b> <b>C Atropine sulfate</b> <b>D Methacin</b> <b>E Gigronium</b>	Only dithyline meets the conditions of the task because it belongs to the group of muscle relaxants.
44	We are a specialist in a pharmacy warehouse. After an hour of introducing the preparations, they must have arrived at the computer database and put in a certain pharmacological group paracetamol:	<b>A * Non-narcotic analgesic</b> <b>B Hypnotic</b> <b>C Diuretic</b> <b>D Hypotensive</b> <b>E Antiangal</b>	Of the different types of paracetamol can be included in the group, as well as a non-narcotic analgesic effect.
45	At the pharmacy, man asked a medicine for the assimilation of allergic rhinitis, which appeared during blooming of linden. What kind of drugs did he need?	<b>A * Loratadine</b> <b>B Adrenaline</b> <b>C Anaprilin</b> <b>D Ambroxol</b> <b>E Losartan</b>	For the treatment of symptoms of seasonal allergic rhinitis, it is possible to use H1 histamine blockers to which loratadine belongs. Other drugs are not used in this case.
46	The dentist should reduce salivation in the patient during surgery. Which pharmacological group did he use for that?	<b>A * M-cholinoblockers</b> <b>B M-cholinomimetics</b> <b>C Adrenomimetics</b> <b>D Adrenoblockers</b> <b>E M, H-cholinomimetics</b>	Non-selective M-cholinoblockers (atropine sulfate) are known to inhibit salivary gland activity and may therefore be used in hypersalivation.
47	What is the most rational drug you can recommend for treating rhinitis with SARS for a baby at the age of 7 months?	<b>A * 0.9% solution of cooked salt in warm water</b>	The warm saline solution is neutral and can be used in this case

		<b>B Naftizin</b> <b>C Galazoline</b> <b>D Pinosol</b> <b>E «Boromentol» Ointment</b>	to wash the nasal passages in this baby.
48	Due to the weakness of labor and delivery, the doctor prescribed a birth hormone drug to stimulate labor. Name the drug:	<b>A * Oxytocin</b> <b>B Glibenclamide</b> <b>C Prednisolone</b> <b>D Insulin</b> <b>E L-thyroxine</b>	Oxytocin is an analogue of the natural pituitary hormone that stimulates uterine tone.
49	The anesthesiologist should perform the operation using neuroleptanalgesia. Which of the following drug combinations is appropriate in this case?	<b>A * Fentanyl with droperidol</b> <b>B Droperidol with prednisolone</b> <b>C Fentanyl with diazepam</b> <b>D Diazepam with aminazine</b> <b>E Promedol with amitriptyline</b>	Neuroleptanalgesia is defined as a type of analgesia with the combined use of neuroleptic (droperidol) and narcotic analgesic (fentanyl), which enhance the action of each other. This corresponds to the conditions of the task.
50	Births with prolonged childbirth should eliminate the pain symptom. Which of the following drugs should be used?	<b>A * Promedol</b> <b>B Morphine hydrochloride</b> <b>C Analgin</b> <b>D Diclofenac sodium</b> <b>E Fentanyl</b>	Of these drugs promedol, morphine fentanyl are narcotic analgesics. In this case, it is possible to use a promedole, it has an additional effect on the smooth muscles of the uterus and it does not inhibit the respiratory center.
51	An insulin-dependent diabetes mellitus patient was assigned a synthetic antidiabetic drug from a group of sulfonylurea derivatives. Name the drug:	<b>A * Glibenclamide</b> <b>B Insulin</b> <b>C Anaprilin</b> <b>D Prednisolone</b> <b>E Furosemide</b>	From the above answers, only glibenclamide and insulin can be used to treat diabetes. However, the urea sulfonal derivative is glibenclamide.
52	To examine the ocular, the patient was buried in a conjunctival cleft, which does not disturb the accommodation. Identify preparation:	<b>A * Adrenaline hydrochloride</b> <b>B Sulfacyl sodium</b> <b>C Zinc sulfate</b> <b>D Boric acid</b> <b>E Levomycetin</b>	Adrenaline dilates the pupil without disturbing the accommodation; atropine dilates the pupil but disrupts accommodation.
53	You are an employe of a pharmacy warehouse. When entering diuretic drugs on your computer, indicate which group the hydrochlorothiazide product belongs to?	<b>A * Thiazide</b> <b>B Carbonic anhydrase inhibitors</b> <b>C Potassium-sparing</b> <b>D Loop</b> <b>E Osmotic</b>	Hydrochlorothiazide belongs to the group of thiazide diuretics that meets the conditions of the task.
54	To examine the ocular, it is necessary to extend the pupil. What preparation is used for this purpose at the clinic?	<b>A * Atropine sulfate</b> <b>B Pilocarpine hydrochloride</b> <b>C Pyrenzepine</b> <b>D Prozerine</b> <b>E Anaprilin</b>	Of these drugs, atropine sulfate (a non-selective M-cholinoblockers) has the property of dilating the pupil.
55	Annotation on magnesium sulfate indicates that this drug is prescribed as an anticonvulsant. Which route of administration should be chosen to obtain this	<b>A * Intramuscular</b> <b>B Subling</b> <b>C Oral</b>	



	pharmacological effect?	<b>D Rectal</b> <b>E Inhalation</b>	
56	Advise a nurse which of the following medications can be used to treat allergies?	<b>A * Loratadine</b> <b>B Naftizine</b> <b>C Levamisole</b> <b>D Glibenclamide</b> <b>E Ascorutin</b>	Loratadine is an H1-histaminoblocker used to treat allergy symptoms. Other drugs are not shown in this case.
57	Children of 10 years with respiratory disease were prescribed paracetamol to reduce fever. What kind of pharmacotherapy should this treatment include?	<b>A * Symptomatic</b> <b>B Etiotropic</b> <b>C Pathogenetic</b> <b>D Adaptation</b> <b>E Replaceable</b>	Fever as a example of symptom of many respiratory diseases, that's treatment only fever as a example of symptomatic therapy.
58	In a patient with insomnia, which is caused by emotional disorders. The doctor has prescribed a person who causes sleep at the expense of tranquilizing action. What kind of hypnotic was administered to the patient?	<b>A * Nitrazepam</b> <b>B Phenobarbital</b> <b>C Chloralhydrate</b> <b>D Etaminal sodium</b> <b>C Bromizoval</b>	All of these drugs have a hypnotic effect. However, only nitrazepam is a benzodiazepine tranquilizer. This is appropriate for the task.
59	Which of the following medications is indicated for a patient with gout with hyperuricemia in the outpatient period?	<b>A * Allopurinol</b> <b>B Hypothiazide</b> <b>C Ascorutin</b> <b>D Dipyridamole</b> <b>E Furosemide</b>	Allopurinol inhibits the synthesis of uric acid and its salts in the body of patients with gout. This is appropriate for the task.
60	The doctor prescribed a patient with osteoporosis as part of complex therapy, a drug that regulates the exchange of calcium and phosphorus. Name the drug:	<b>A * Calcitonin</b> <b>B Calcium Pangamate</b> <b>C Ascorbic acid</b> <b>D Quercetin</b> <b>E Globiron</b>	Calcitonin is involved in the regulation of calcium and phosphorus metabolism used in the treatment of osteoporosis.
61	A 47-year-old patient with a diagnosis of diffuse toxic goiter requiring antithyroid therapy. Choose a drug for this patient:	<b>A * Mercazolyl</b> <b>B Sodium levothyroxine</b> <b>C Thyrotropin alpha</b> <b>D Potassium iodide</b> <b>E Triiodothyronine</b>	In diffuse toxic goiter, thyroid function is increased. Therefore, anti-thyroid drugs (mercazoly), which reduce peroxidase activity and disrupt thyroid hormone synthesis, are used for treatment.
62	A woman was asked to recommend a drug for the prevention of influenza in her child at the age of 2 years in the form of nasal drops. Such means are:	<b>A * Interferon</b> <b>B Oxolin</b> <b>C Remantadine</b> <b>D Acyclovir</b> <b>E Paracetamol</b>	Of these drugs, nasal interferon is the most effective and safe and meets the requirements of the task.
63	Patients after colds in the area of the wings of the nose and upper lip appeared herpetic rash. What drug can I recommend for a patient?	<b>A * Acyclovir</b> <b>B Clotrimazole</b> <b>C Azithromycin</b> <b>D Dexamethasone</b> <b>E Amoxicillin</b>	Herpetic rashes are caused by herpes simplex virus. Only acyclovir of the following agents has antiviral activity.
64	At a medical conference, an invited clinical pharmacist informed about the antiviral drug acyclovir. What is the mechanism of its action?	<b>A * Suppresses nucleic acid synthesis</b> <b>B Blocks the synthesis of the cell wall</b> <b>C Increases the permeability of the cell</b>	

		<i>membrane</i> <i>D Shows antagonism with PABC</i> <i>E Inhibits protein synthesis</i>	
65	The doctor prescribed ceftriaxone to the patient with pneumonia of a moderate course once a day. The administration of the drug once a day is due to the fact that the drug:	<i>A * Slowly excreted from the body</i> <i>B Has a bactericidal effect</i> <i>C Has a wide range of effects</i> <i>D Capable of accumulating in the lungs</i> <i>E Poor absorption from the injection site</i>	Ceftriaxone is a 3rd generation of cephalosporin and has a long half-life (about 18-20 hours), so it can be used once a day.
66	Choose an antiseptic from a group of halogen-containing compounds that can be put in a first aid kit for a kid going to summer camp:	<i>A * Alcohol iodine solution</i> <i>B A solution of diamond green</i> <i>C Copper sulfate solution</i> <i>D Methylene blue solution</i> <i>E Formaldehyde solution</i>	Iodine is halogen, so this answer is correct.
67	The doctor prescribed diazepam to the patient suffering from neurosis with the phenomena of anxiety and fear. What pharmacological effect of the drug allows it to be used for the treatment of this disease?	<i>A * Anxiolytic</i> <i>B Antiarrhythmic</i> <i>C Anti-inflammatory</i> <i>D Hypotensive</i> <i>E Antianginal</i>	The added effect of anxiolytic tranquilizers is leading in this case. This effect is defined as a method of treating anxiety and fear.
68	A woman suffering from neurosis sleeps poorly. Which of the following should be considered as preference for insomnia treatment?	<i>A * Nitrazepam</i> <i>B Phenobarbital</i> <i>C Etaminal sodium</i> <i>D Bromizoval</i> <i>E Tincture of valerian</i>	Nitrazepam and other tranquilizers have hypnotic, sedative, anxiolytic effects. This is appropriate for the task.
69.	Patients with acute heart failure and intolerance to cardiac glycosides were administered dobutamine. What is the mechanism of action of this drug?	<i>A * Stimulation of <math>\beta</math>1-adrenoreceptors</i> <i>B Stimulation of <math>\alpha</math>1-adrenoreceptors</i> <i>C Blockade of <math>K^{+}</math>, <math>Na^{+}</math>-ATPase</i> <i>D Suppression of phosphodiesterase activity</i> <i>E Stimulation of M-cholinoreceptors</i>	Dobutamine, by stimulating beta1-receptors of the heart, increases myocardial contractility and cardiac output, so it can be used as a non-glycosidic cardiotonic.
70.	A patient with hypertension was assigned to lisinopril. Specify the mechanism of antihypertensive effect of this drug:	<i>A * Angiotensin converting enzyme inhibition</i> <i>B Blocking of <math>\alpha</math>1-adrenoceptors</i> <i>C Direct myotropic action</i> <i>D Excitation of the CNS <math>\beta</math>2-adrenoceptors</i> <i>E Calcium channel blockade</i>	Inhibition of angiotensin converting enzyme activity and reduction of angiotensin II synthesis are the mechanism of action of lisinopril.
71.	The pharmacist was approached by a patient who had been taking phenazepam for a month. The patient	<i>A * Drug dependence</i> <i>B Idiosyncrasy</i>	Prolonged use of tranquilizers

	insisted on the purchase of two more packages of this drug, explaining it to the fact that he without phenazepam is feeling bad. What underlies the side effect of a drug that has developed in a patient?	<i>C Aftereffect syndrome</i> <i>D Cumulation</i> <i>E Addictive</i>	contributes to the development of addiction. This is appropriate for the task.
72.	Atropine sulfate was used in the poisoning of organophosphorus compounds. What phenomenon underlies the antidote action?	<i>A * Antagonism</i> <i>B Synergism</i> <i>C Addictive</i> <i>D Chemical incompatibility</i> <i>E Potentiation</i>	FOS bind cholinesterase, which destroys acetylcholine, which is accompanied by increased activity. Atropine is an M-cholin blocker and thus blocks the action of acetylcholine and can be used as an antagonist for FOS intoxication.
73.	Bronchodilatory effect in the appointment of $\beta_2$ -agonist short-acting - salbutamol develops through:	<i>A * 5-10 minutes</i> <i>B 20-30 minutes</i> <i>C 45-60 minutes</i> <i>D 2-3 hours</i> <i>E 4-6 hours</i>	Salbutamol is a short-acting beta2-adrenoreceptor agonist, so its pharmacokinetic parameters take effect within the first 5-10 minutes.
74.	Answer the medical examiner's question: "Which laxative enhances uterine tone?"	<i>A * Castor oil</i> <i>B Vaseline oil</i> <i>C Olive oil</i> <i>D Glycerin</i> <i>E Sunflower oil</i>	Castor oil not only increases intestinal tone, but also stimulates uterine tone, which can be dangerous.
75.	Post-operative bowel atony developed in the elderly patient. What anticholinesterase drug is shown to it?	<i>A * Proserine</i> <i>B Dütiline</i> <i>C Pilycarpine hydrochloride</i> <i>D Atropine sulfate</i> <i>E Metoprolol</i>	By blocking the activity of choline esterase, proserin increases the concentration of aceticholine and, thus, its stimulating effect on the cholinoreceptors of the intestine and its motor activity.
76.	The patient with peptic ulcer was assigned ranitidine. The acidity of gastric juice decreased significantly. What mechanism of action of this drug?	<i>A * Blockade of H2-histamine receptors</i> <i>B H1-histamine receptor blockade</i> <i>C Blockade of M - cholinoreceptors</i> <i>D Suppression of H + K + ATPase activity</i> <i>E Blockade of H-cholinoreceptors of the autonomic ganglia</i>	Ranitidine blocks the H2 histamine receptor of the stomach and thus has antisecretory activity.
77.	The patient was referred to the pharmacy by a doctor prescribed famotidine for peptic ulcer disease. Explain what mechanism underlies the action of this drug?	<i>A * Blockade of H2-histamine receptors</i> <i>B H1-histamine receptor blockade</i> <i>C Blockade of M - cholinoreceptors</i> <i>D Suppression of H + -K + --ase activity</i> <i>E Blockade of sympathetic ganglia</i>	Famotidine blocks the gastric H2 histamine receptors and thus has antisecretory activity.

		<i>cholinoreceptors</i>	
78.	Famotidine is prescribed for the treatment of peptic ulcer disease. Specify the mechanism of action of the drug:	<b>A * Blocks H<sub>2</sub>-histamine receptors</b> <b>B Stimulates H<sub>2</sub>-histamine receptors</b> <b>C Stimulates <math>\alpha</math>-adrenoceptors</b> <b>D Blocks <math>\beta</math>-adrenoceptors</b> <b>E Stimulates M-choline receptors</b>	Famotidine meets the requirements of the task and belongs to the group of H <sub>2</sub> -histamine blockers.
79.	A woman was asked by a doctor to recommend a medicine for the prevention of influenza in her child aged 2 years in the form of nasal drops. Such means are:	<b>A * Interferon</b> <b>B Acyclovir</b> <b>C Paracetamol</b> <b>D Oxolin</b> <b>E Remantadine</b>	Of these drugs, nasal interferon (nasoferon) can be used to prevent viral infection in a child.
80.	Which of the following pharmacotherapeutic requirements allows the drug to be considered as OTC?	<b>A * The drug does not cause direct or indirect harm to health</b> <b>B. A medication for which a doctor's prescription is required</b> <b>C The drug should only be used in a hospital</b> <b>D The drug contains substances whose activity and side effects require further investigation</b> <b>E A drug that has recently been introduced to the pharmaceutical market and has no limited practical experience</b>	This definition has the means that are used as over-the-counter for the treatment of minor symptoms of the disease.
81.	The patient underwent a course of palliative morphine hydrochloride therapy for a week, after which he began to require further administration of the drug. What is the phenomenon in this case?	<b>A * Dependency</b> <b>B Tolerance</b> <b>C Summation</b> <b>D'Potential</b> <b>E Cumulation</b>	Palliative therapy is most often symptomatic in patients with oncopathology requiring painkillers. It is the use of narcotic analgesics in this case that is the cause of the development of addiction.
82.	The pharmacy provides medical support to patients on preferential and free basis. Indicate at which outpatient treatment the medication is allowed to be dispensed for free:	<b>A * Diabetes mellitus</b> <b>B Headache</b> <b>C Cough</b> <b>D Muscular Pain (Myalgia)</b> <b>E Arthralgia</b>	Diabetes mellitus is now a disease of the reimbursement list, with free medication available.
83.	Choose a drug for the treatment of hyperthyroidism:	<b>A * Mercazolil</b> <b>B Insulin</b> <b>C Oxytocin</b> <b>D Prednisone</b> <b>E Metformin</b>	Mercazolil is an antithyroid drug and is used to treat high thyroid function.
84.	A 32-year-old man with allergy symptoms (runny nose, sneezing, itchy skin) came to a pharmacy. He is a professional driver. What H <sub>1</sub> -histamine blocker can be recommended to this man, taking into account his profession?	<b>A*Loratadine</b> <b>BDimedrol</b> <b>CSuprastin</b> <b>DEnterogel</b> <b>EAtropine</b>	Loratadine is a second-generation H <sub>1</sub> -histamine blocker without sedative effect
85.	What drug is used for prevention and treatment of	<b>A*Interferon</b>	Interferons are used to

	influenza and acute respiratory viral infection?	BAmoxicillin CCeftriaxone DAcetylsalicylic acid EMetamizole sodium	treat and prevent viral diseases and have antiviral activity. Other drugs do not have an antiviral effect.
86.	A doctor has prescribed a potassium-sparing diuretic for a 35-year-old patient. Which one of the listed drugs belongs to this group?	A*Triamterene BDiltiazem CPrazosin DFurosemide EBisoprolol	Among the listed drugs, only furosemide and triamterene are diuretics. But furosemide removes potassium.
87.	What drug is listed as a psychotropic substance?	A*Phenazepam BCanephron CPhencarolum DParacetamol EAnalgin	Of the listed drugs, phenazepam is a tranquilizer that affects the central nervous system.
88.	A man developed bladder atony in the postoperative period. What drug must be prescribed to the patient in this case?	A*Prozerin (Neostigmine) BMagnesium sulfate CATropine DDimedrol (Diphenhydramine) EVerapamil	Anticholinesterase agents (prozerin) increase the synthesis of acetylcholine and stimulate the tone of the smooth muscles of the bladder.
89.	What oral hypoglycemic agent should be prescribed for a 47-year-old overweight patient with 2 diabetes mellitus, if diet therapy is ineffective?	A*Metformin BMetoprolol CMetoclopramide DMetronidazole EMeloxicam	Metformin is a tablet-based hypoglycemic drug of the biguanide class for oral administration. It is used in the treatment of type 2 diabetes mellitus, especially in overweight and obese individuals with normal renal function.

## TOPIC 2. Clinical pharmacy in cardiology

№	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	A patient suffering from bronchial asthma has been diagnosed with hypertension. What antihypertensive drug is contraindicated in this patient?	A * <i>Anaprilin</i> B <i>Captopril</i> C <i>Amlodipine</i> D <i>Hypothiazide</i> E <i>Verapamil</i>	Anaprilin (propranolol) is a non-selective beta-blocker, a side effect of which is the development of bronchial obstruction. Therefore, in this case it is contraindicated.
2.	Enalapril is used in the medical treatment of a patient of 63 years who has cardiovascular pathology. Which group does this drug belong to?	A * <i>ACE Inhibitor</i> B <i>β-blocker</i> C <i>α-blocker</i> D <i>Diuretic drug</i> E <i>Calcium antagonist</i>	Enalapril is an ACE inhibitor, which meets the requirements of the task.
3.	A patient of 45 years with a diagnosis of arterial hypertension was prescribed in complex therapy enalapril, amlodipine, hydrochlorothiazide, atorvastatin, acetylsalicylic acid. Lower extremity edema appeared on the 5th day of treatment. What drug could have caused such a side effect?	A * <i>Amlodipine</i> B <i>Enalapril</i> C <i>Hydrochlorothiazide</i> D <i>Atorvastatin</i> E <i>Acetylsalicylic acid</i>	Amlodipine is a calcium antagonist with a predominant vasotropic effect. The leading side effect of this group is peripheral vasodilation and the development of peripheral edema.

4.	What medication is used in acute myocardial infarction for thrombolytic therapy?	<b>A * Alteplase</b> <b>B Acetylsalicylic acid</b> <b>C Heparin</b> <b>D Pentoxifylline</b> <b>E Fraxiparin</b>	In acute myocardial infarction, rapid lysis of the platelet thrombus formed in the coronary artery is required. For this purpose medicated thrombolysis (alteplase, actilise, etc.) is used.
5.	A 70-year-old patient was referred to the doctor for elevated blood pressure. From the anamnesis it is known about the presence of benign prostatic hyperplasia. Which medication is desirable to assign to this patient?	<b>A * Doxazosin</b> <b>B Enalapril</b> <b>C Propranolol</b> <b>D Diltiazem</b> <b>E Losartan</b>	Given the combined pathology, the most effective are peripheral alpha-blockers (doxazosin), which have a double effect.
6.	The greatest nephroprotective effect in patients with type II diabetes have:	<b>A * Angiotensin II receptor blockers</b> <b>B Calcium antagonists</b> <b>C Diuretics</b> <b>D <math>\beta</math>-blockers</b> <b>E Imidazoline receptor stimulators</b>	Of the listed groups, angiotensin II receptor blockers, inhibiting the activity of the renin-angiotensin-aldosterone system, have antihypertensive and nephroprotective effects.
7.	Patient with a history of coronary heart disease, angina pectoris. During physical exertion, stinging pains behind the breast with irradiation in the left hand appeared. Where should the emergency room begin?	<b>A * Nitroglycerin tablets under the tongue</b> <b>B. Introduction of analgin i.m.</b> <b>C Introduction of dimedrol i.m.</b> <b>D Introduction of promedol i.m.</b> <b>E Flowered oxygen supply</b>	Nitroglycerin, a short-acting nitrate, is the main indication for its use in the treatment of acute angina.
8.	Which group of antihypertensive drugs is contraindicated in patients with hyperuricemia and hypertension?	<b>A * Thiazide diuretics</b> <b>B <math>\alpha</math>-blockers</b> <b>C Angiotensin converting enzyme inhibitors</b> <b>D Calcium antagonists</b> <b>E <math>\beta</math>-blockers</b>	Hyperuricemia is a condition characterized by an increase in the level of uric acid in the blood. It is thiazide diuretics (hydrochlorothiazide) that can increase its level as a side metabolic effect.
9.	Which of the following pharmacological groups of antihypertensive drugs is contraindicated in patients with bronchial asthma?	<b>A * <math>\beta</math>-blockers</b> <b>B ACE-inhibitors</b> <b>C Calcium antagonists</b> <b>D Angiotensin receptor blockers</b> <b>E Diuretics</b>	Non-selective beta-blockers can cause symptoms of bronchial obstruction and are therefore contraindicated in the presence of bronchial asthma.
10.	A patient was advised to the examiner who was advised to take acetylsalicylic acid as an antiplatelet agent. What daily dose in grams should You recommend for continuous use?	<b>A * 0.1-0.3</b> <b>B 0,5-1,0</b> <b>C 1.0-2.0</b> <b>D 2,0-3,0</b> <b>E More 4.0</b>	The daily dose of aspirin as an antiaggregant is small and averages 100 mg.
11.	The patient of 49 years is disturbed by the periodic squeezing pain of the head in the occipital region, dizziness, increase of blood pressure. History of type II diabetes. Which diuretic does NOT affect your blood glucose level?	<b>A * Indapamide</b> <b>B Furosemide</b> <b>C Hypothiazide</b> <b>D Ethacric acid</b> <b>E Urea</b>	Indapamide thiazide-like diuretic for pre-adjunctive therapy for hypertension without adverse metabolic

			complications, this is appropriate for the task.
12.	Propranolol was administered to a patient of 35 years for tachycardia. Which of the following adverse reactions can occur when using a $\beta$ -blocker?	<b>A * Bronchospasm</b> <b>B Medical dependence</b> <b>C Cumulation</b> <b>D Increased blood pressure</b> <b>E Fasten</b>	The non-selective beta-blocker propranolol has several important side effects, among which are bronchospasm. This is appropriate for the task.
13.	ACE inhibitors have been prescribed to patients with arterial hypertension. What possible side effect should the patient be warned about?	<b>A * Cough</b> <b>B Salivation</b> <b>C Urinary incontinence</b> <b>D Diarrhea</b> <b>E Swelling of the lower extremities</b>	The development of unproductive cough is a major side effect of ACE inhibitors. This is appropriate for the task.
14.	A 59-year-old man has been using furosemide for a long time to treat heart failure. What medication for the prevention of hypokalemia should be used in this case?	<b>A * Panangin</b> <b>B Thiotriazoline</b> <b>C Acetylsalicylic acid</b> <b>D Trimetazidine</b> <b>E Enalapril</b>	Furosemide is a loop diuretic that lowers serum potassium and magnesium levels. To prevent this side effect, use potassium and magnesium (eg, panangin, asparcam).
15.	A 53-year-old woman has coronary heart disease, angina. Which medication should be used to relieve angina pectoris?	<b>A * Nitroglycerin</b> <b>B Drotaverine hydrochloride</b> <b>C Propranolol</b> <b>D Dipyridamole</b> <b>E Acetylsalicylic acid</b>	Nitroglycerin, a short-acting nitrate, is a major indication for its use in the treatment of acute angina.
16.	In patients with coronary heart disease, tolerance to nitrates of prolonged action developed after 6 months of treatment. Which drug with a nitrate-like effect should be recommended in this case?	<b>A * Molsidomine</b> <b>B Nifedipine</b> <b>C Prazosin</b> <b>D Verapamil</b> <b>E Metoprolol</b>	Molsidomine belongs to the group of sydnonimines. It has a nitrate-like venodilating effect and can be used to replace nitrates as anti-anginal drugs.
17.	A 48-year-old woman was admitted to the cardiology department with a diagnosis of CHD, angina. Attacks occur 1-2 times a day. Which drug is most appropriate to recommend for treatment?	<b>A * Isosorbide dinitrate</b> <b>B Eufillin</b> <b>C Drotaverine</b> <b>D Papaverine</b> <b>E Dipyridamole</b>	Of the above options, only isosorbide dinitrate is used as an antianginal agent for the treatment of coronary heart disease.
18.	The patient with hypertension was assigned captopril. What is the mechanism of action of this drug?	<b>A * Suppression of angiotensin converting enzyme activity</b> <b>B <math>\beta</math>-Adrenoceptor blockade</b> <b>C Blockade of <math>\alpha</math>-adrenoceptors</b> <b>D Blockade of angiotensin II receptors</b> <b>E Block of slow calcium channels</b>	Captopril belongs to a group of ACE inhibitors and, thus, an inhibitor of angiotensin II synthesis.
19.	With which group of diuretics CAN NOT you simultaneously administer antihypertensive agents belonging to the group of angiotensin converting enzyme inhibitors?	<b>A * Potassium-sparing</b> <b>B Thiazide</b> <b>C Loops</b> <b>D Xanthines</b> <b>E Osmotic</b>	ACE inhibitors are known to delay potassium in the body, so their compatible intake with potassium-sparing diuretics (triamterene) is

			undesirable.
20.	Patients with acute heart failure and intolerance to cardiac glycosides were administered dobutamine. What is the mechanism of action of this drug?	<p><i>A * Stimulation of <math>\beta</math>1-adrenoceptors</i></p> <p><i>B Stimulation of <math>\alpha</math>1-adrenoceptors</i></p> <p><i>C Blockade of <math>K^+</math>, <math>Na^+</math>-ATPase</i></p> <p><i>D Suppression of phosphodiesterase activity</i></p> <p><i>E Stimulation of M-cholinoreceptors</i></p>	Dobutamine, by stimulating beta1-receptors of the heart, increases myocardial contractility and cardiac output, so it can be used as a non-glycosidic cardiotonic.
21.	The doctor prescribed to the patient an antiplatelet agent that affects the formation of thromboxane in platelets. Specify this drug:	<p><i>A * Acetylsalicylic acid</i></p> <p><i>B Vicasol</i></p> <p><i>C Adrenaline hydrochloride</i></p> <p><i>D Calcium chloride</i></p> <p><i>E Prednisolone</i></p>	Acetylsalicylic acid (aspirin) in small doses of 100 mg per day inhibits thromboxane synthesis and is used as an antiplatelet agent.
22.	The doctor prescribed metoprolol to the patient, which helped reduce high blood pressure. Which pharmacological group does this person belong to?	<p><i>A * <math>\beta</math>-blockers</i></p> <p><i>B <math>\alpha</math>-blockers</i></p> <p><i>C M-cholinolytics</i></p> <p><i>D N-cholinolytics</i></p> <p><i>E Sympatholytics</i></p>	Metoprolol is a selective blocker of beta1-adrenergic receptors. This is appropriate for the task.
23.	The patient with acute heart failure was administered a corglycone. What is the effect of this drug on the improvement of the patient's condition?	<p><i>A * Increased heart output</i></p> <p><i>B Reduced heart rate</i></p> <p><i>C Expansion of coronary vessels</i></p> <p><i>D Increase in heart rate</i></p> <p><i>E Reducing myocardial oxygen demand</i></p>	Corglycone cardiac glycoside, cardiotonic, has a positive inotropic effect, which is accompanied by an increase in strength and heart rate.
24.	What is the correct answer given by the clinical examiner-intern at the hospital for five minutes regarding the mechanism of the anti-atherosclerotic action of clofibrate (fenofibrate)?	<p><i>A * Reduces the level of triglycerides</i></p> <p><i>B Suppresses cholesterol absorption</i></p> <p><i>C Binds bile acids to the small intestine</i></p> <p><i>D Has antioxidant action</i></p> <p><i>E Suppresses the release of free fatty acids from adipose tissue</i></p>	Clofibrate is a derivative of fibrous acid whose main mechanism is to influence the synthesis of triglycerides and cholesterol in the liver.
25.	For arterial hypertension, Losartan is contraindicated in the following conditions:	<p><i>A * Pregnancy</i></p> <p><i>B Hyperglycemia</i></p> <p><i>C Urinary diathesis</i></p> <p><i>D Hyperlipidemia</i></p> <p><i>E Hipokaliyemia</i></p>	Losartan (an angiotensin II receptor antagonist) is contraindicated during pregnancy due to its possible teratogenic action (birth defects).
26.	Which of the following antihypertensive drugs has a potassium-sparing effect?	<p><i>A * Triamterene</i></p> <p><i>B Furosemide</i></p> <p><i>C Prazosin</i></p> <p><i>D Metoprolol</i></p> <p><i>E Diltiazem</i></p>	Triamterene refers to potassium-sparing diuretics. This is appropriate for the task.
27.	Metoprolol was prescribed to a 56-year-old patient with CHD. What is its mechanism of action in coronary heart disease?	<p><i>A * Reduces myocardial oxygen demand</i></p> <p><i>B Increases myocardial oxygen demand</i></p> <p><i>C Expands coronary vessels</i></p> <p><i>D Reduces the tone of</i></p>	Metoprolol and other beta-blockers in coronary heart disease reduce heart rate and reduce cardiac output, thus reducing myocardial oxygen



		<i>the peripheral vessels</i> <i>E Narrows the coronary vessels</i>	demand.
28.	Patients with myocardial infarction were administered intravenously with an anticoagulant direct effect:	<i>A * Heparin</i> <i>B Neodicoumarin</i> <i>C Vikasol</i> <i>D Thrombin</i> <i>E Calcium gluconate</i>	From the above answers, only heparin is attributed to direct-acting anticoagulants.
29.	A 55-year-old patient with acute angina attack was advised to treat it quickly with an organic nitrate group. Identify this drug:	<i>A * Nitroglycerin</i> <i>B Octadine</i> <i>C Nifedipine</i> <i>D Prazosin</i> <i>E Labetalol</i>	Nitroglycerin, a short-acting nitrate, is a major indication for its use in the treatment of acute angina.
30.	Neuroleptanalgesia was performed in myocardial infarction. Which neuroleptic drug is most commonly used in conjunction with fentanyl?	<i>A * Droperidol</i> <i>B Etaperazine</i> <i>C Levomepromazine</i> <i>D Clozapine</i> <i>E Sulpiride</i>	A classic variant of neuroleptanalgesia is the combination of the neuroleptic droperidol and the narcotic analgesic fentanyl.
31.	What causes the occurrence of dry cough in a patient who has been taking lisinopril for a long time for the treatment of hypertension?	<i>A * Increasing bradykinin concentration</i> <i>B Noradrenaline depletion</i> <i>C Accumulation of angiotensin II</i> <i>D Suppression of angiotensin receptors</i> <i>E Reducing the concentration of renin</i>	ACE inhibitors (lisinopril and others) increase the level of bradykinin, which causes swelling of the mucous membrane of the respiratory tract, which in turn causes coughing.
32.	One of the antihypertensive agents was prescribed to the patient with arterial hypertension. The patient's blood pressure returned to normal, but he was disturbed by a persistent dry cough. Which of these drugs has such a side effect?	<i>A * Enalapril maleate</i> <i>B Amlodipine</i> <i>C Klofelin</i> <i>D Furosemide</i> <i>E Nifedipine</i>	Enalapril - ACE inhibitor - a characteristic side effect is dry cough.
33.	In a patient of 60 years after the emotional overstrain, there was a pain behind the breast with irradiation in the left hand. What is the name of the medicine that causes the pain in this case:	<i>A * Nitroglycerin</i> <i>B Nifedipine</i> <i>C Diltiazem</i> <i>D Propanolol</i> <i>E Metoprolol</i>	Nitroglycerin, a short-acting nitrate, is the main indication for its use in the treatment of acute angina.
34.	A patient with atherosclerosis was assigned an anti-atherosclerotic disease. What is this preparation:	<i>A * Fenofibrate</i> <i>B Ascorbic acid</i> <i>C Piracetam</i> <i>D Dexamethasone</i> <i>E Butadion</i>	From these answers, only fenofibrate lowers triglycerides and cholesterol and can be used to treat atherosclerosis.
35.	After long-term administration of isosorbide for the prevention of angina attacks, the patient noted a significant decrease in the effect of the latter. What phenomenon occurred in the patient?	<i>A * Tolerance</i> <i>B Cumulation</i> <i>C Physical dependence</i> <i>D Allergy</i> <i>E Potentiation</i>	A side effect that develops with prolonged use of nitrates, caused by a decrease in nitric oxide levels and sensitivity of receptors, requires discontinuation of therapy and replacement of drugs.
36.	Patient with ischemic heart disease was prescribed a drug from the group of non-steroidal anti-inflammatory drugs to prevent thrombosis. What is this drug?	<i>A * Acetylsalicylic acid</i> <i>B Ibuprofen</i> <i>C Piroxicam</i> <i>D Mephenamic acid</i> <i>E Indomethacin</i>	Acetylsalicylic acid (aspirin) belongs to the group of non-steroidal anti-inflammatory drugs. However, it is not used today as an anti-inflammatory drug

			due to the large number of side effects, but is used as a small-dose antiplatelet agent in coronary heart disease.
37.	Obstructive bronchitis is found in hypertensive patients. Which of these antihypertensive drugs is contraindicated for him?	<b>A * Anaprilin</b> <b>B Hypothiazide</b> <b>C Dopegit</b> <b>D Raunatin</b> <b>E Clonidine</b>	Anaprilin (propranolol) is a non-selective beta-blocker, a side effect of which is the development of bronchial obstruction. Therefore, in this case it is contraindicated.
38.	The hypertensive patient went to the doctor with a complaint of dry cough, which appeared on the background of the treatment. What antihypertensive drug did she use?	<b>A * Lisinopril</b> <b>B Atenolol</b> <b>C Nifedipine</b> <b>D Furosemide</b> <b>E Dichlorothiazide</b>	Lisinopril - ACE inhibitor - the leading side effect is the development of dry unproductive cough
39.	Which of the following pharmacological groups of antihypertensive drugs is contraindicated in patients with bronchial asthma?	<b>A * <math>\beta</math>-blockers</b> <b>B ACE Inhibitors</b> <b>C Calcium channel blockers</b> <b>D Angiotensin receptor blockers</b> <b>E Diuretics</b>	This group causes bronchospasm due to the blockade of beta2-adrenoreceptors of the bronchi.
40.	For elimination of angina attack the patient uses nitroglycerin in capsules. What is the rational route of administration of this drug?	<b>A * Sublingual</b> <b>B Oral</b> <b>C Rectal</b> <b>D Inhalating</b> <b>E Subcutaneous</b>	As an ambulance, nitroglycerin is used under the tongue.
41.	Metoprolol was prescribed to patients with hypertension to reduce blood pressure. What is the mechanism of action of this drug?	<b>A * Blockade of <math>\beta</math>-adrenoceptors</b> <b>B <math>\alpha</math>-Adrenoceptor blockade</b> <b>C Indirect adrenomimetic action</b> <b>D Spasmolytic action</b> <b>E Blockade of angiotensin receptors</b>	Metoprolol is a selective beta1-blocker, thus reducing cardiac output and normalizing systolic blood pressure.
42.	For the treatment of thrombosis, the doctor prescribed a drug from the group of anticoagulants direct action. Name this drug:	<b>A * Heparin</b> <b>B Fenylin</b> <b>C Sinkumar</b> <b>D Neodicumarin</b> <b>E Vikasol</b>	Of these drugs, only heparin meets the conditions of the task and belongs to the group of direct anticoagulants.
43.	A 24-year-old patient suffers from type I diabetes for 8 years. Symptomatic arterial hypertension developed on the background of diabetic nephropathy. Which of the following drugs is indicated for long-term therapy?	<b>A * Enalapril</b> <b>B Propranolol</b> <b>C Clonidine</b> <b>D Dibazole</b> <b>E Dichlorothiazide</b>	ACE inhibitors (enalapril and others) have antihypertensive and nephroprotective effects, so they are used in this case.
44.	A 52-year-old patient suffered a myocardial infarction and was discharged home after inpatient treatment. What daily dose of acetylsalicylic acid should she use to prevent thrombus formation?	<b>A * 100 mg</b> <b>B 500 mg</b> <b>C 1000 mg</b> <b>D 200 mg</b> <b>E 50 mg</b>	Small doses (average 100 mg daily) of aspirin are used as an antiaggregant.
45.	In a 52-year-old patient, blood pressure was raised during the month. From the anamnesis it is known that the last 5 years have been suffering from bronchial asthma. Which group of antihypertensive drugs is NOT	<b>A * <math>\beta</math>-Adrenoceptor blockers</b> <b>B Calcium channel blockers</b>	Beta-blockers cause a side effect of bronchial obstruction, so contraindicated in

	desirable for the patient?	<i>C Tranquilizers</i> <i>D Angiotensin receptor blockers</i> <i>E Diuretics</i>	bronchial asthma.
46.	Diuretics are prescribed for the treatment of hypertension. Which diuretic does NOT require combination with potassium?	<i>A * Triamterene</i> <i>B Clopamide</i> <i>C Dichlorothiazide</i> <i>D Furosemide</i> <i>E Ethacric acid</i>	Triamterene is a potassium-sparing diuretic, so it is not combined with potassium.
47.	A 48-year-old woman was admitted to the cardiology department with a diagnosis of coronary heart disease, angina. Attacks occur 1-2 times a day. Which drug is most appropriate to recommend for treatment?	<i>A * Isosorbide dinitrate</i> <i>BEuflin</i> <i>C Drotaverine</i> <i>D Papaverine</i> <i>E Dipyridamole</i>	Of the above options, only isosorbide dinitrate is used as an antianginal agent for the treatment of coronary heart disease.
48.	A patient of 53 years after physical exertion began to worry about chest pain with irradiation in his left hand. What medication should be used to treat a pain attack?	<i>A * Nitroglycerin</i> <i>B Isosorbide 5-mononitrate</i> <i>C Nifedipine</i> <i>D Metoprolol</i> <i>E Diltiazem</i>	Nitroglycerin, a short-acting nitrate, is the main indication for its use in the treatment of acute angina.
49.	After a week of pharmacotherapy of arterial hypertension with lisinopril at a dose of 10 mg 2 times a day, the patient experienced periodic attacks of dry cough. How can this be caused?	<i>A * Blood accumulation of bradykinin residue</i> <i>B Boosting the tone of the cough center</i> <i>C Exacerbation of concomitant pathology</i> <i>D Suppression of aldosterone synthesis</i> <i>E Reducing adrenaline</i>	ACE inhibitors (lisinopril and others) contribute to the accumulation of bradykinin, which causes swelling of the bronchial mucosa and, thus, causes cough.
50.	The patient was taken to a hospital with a hypertensive crisis. What drug should she use to eliminate it?	<i>A * Magnesium sulfate</i> <i>B Digoxin</i> <i>C Nitroglycerin</i> <i>D Spironolactone</i> <i>E Promedol</i>	Magnesium sulfate is used intravenously to rapidly reduce blood pressure in hypertensive crisis.
51.	A 65-year-old patient with chronic heart failure regularly receives furosemide 40 mg on an empty stomach 3 times a week. Due to community-acquired pneumonia, the doctor prescribed combination pharmacotherapy. After 3 days the patient began to lose hearing. What is the name of the medicine that causes deafness when interacting with furosemide:	<i>A * Amikacin</i> <i>B Linex</i> <i>C Tavegil</i> <i>D Nystatin</i> <i>E Potassium iodide solution</i>	Aminoglycosides (amikacin and others) when interacting with loop diuretics (furosemide) increase the risk of ototoxicity because they have a similar mechanism to this side effect. This combination of medicines is contraindicated.
52.	A patient of 50 years of age has a history of hypertension with swelling and a decrease in diuresis for 20 years. What drug should be prescribed to the patient to reduce the arterial pressure and swelling elimination?	<i>A * Furosemide</i> <i>B Reserpine</i> <i>C Enalapril</i> <i>D Prazosin</i> <i>E Metildofa</i>	Diuretics meet the requirements of the task. Other drugs with antihypertensive effect, but do not increase diuresis.
53.	Patients with hypertension for a long time took an antihypertensive drug, which suddenly stopped using. Subsequently, the patient's condition worsened, hypertensive crisis developed. Which category does this side effect belong to?	<i>A * Withdrawal syndrome</i> <i>B Cumulation</i> <i>C Tolerance</i> <i>D Sensitization</i> <i>E Dependency</i>	Long-term therapy for hypertension lasts a lifetime. The abrupt withdrawal of drugs is accompanied by a return to its original state and, more importantly, a withdrawal syndrome, which prevents such

			treatment tactics.
54.	A patient with hypertension was assigned to lisinopril. Specify the mechanism of antihypertensive effect of this drug:	<p><b>A * Angiotensin converting enzyme inhibition</b></p> <p><b>B Blocking of <math>\alpha</math>1-adrenoceptors</b></p> <p><b>C Direct myotropic action</b></p> <p><b>D Excitation of the CNS <math>\beta</math>2-adrenoceptors</b></p> <p><b>E Calcium channel blockade</b></p>	Inhibition of angiotensin converting enzyme activity and reduction of angiotensin II synthesis are the mechanism of action of lisinopril.
55.	In a patient with hypertension, the level of renin in the blood plasma is increased. Which of the following pharmacological groups should be given preference for the treatment of this patient?	<p><b>A * ACE Inhibitors</b></p> <p><b>B Sympatholytics</b></p> <p><b>C Calcium channel blockers</b></p> <p><b>D <math>\alpha</math>-blockers</b></p> <p><b>E Diuretics</b></p>	ACE-inhibitors inhibit the activity of the renin-angiotensin-aldosterone system, thus meeting the conditions of the task.
56.	A 50-year-old woman has symptomatic hypertension and concomitant chronic obstructive pulmonary disease. Which group of medicines will be restricted for the patient?	<p><b>A * <math>\beta</math>-blockers</b></p> <p><b>B Calcium channel blockers</b></p> <p><b>C Angiotensin converting enzyme inhibitors</b></p> <p><b>D Angiotensin receptor blockers</b></p> <p><b>E Diuretics</b></p>	Beta-blockers cause a side effect - bronchial obstruction, so contraindicated in COPD.
57.	After tooth extraction, the patient developed acute heart failure. Which of the following drugs is appropriate for the patient?	<p><b>A * Corglycone</b></p> <p><b>B Bemegrid</b></p> <p><b>C Etimisole</b></p> <p><b>D Cavinton</b></p> <p><b>E Piracetam</b></p>	The drug of possible help in acute heart failure is corglycone - a cardiac glycoside of short and strong action. Other drugs are not shown.
58.	The patient suffering from angina attacks is shown to have long-acting nitrates. Specify this drug among the following:	<p><b>A * Isosorbide mononitrate</b></p> <p><b>B Diazepam</b></p> <p><b>C Aminazine</b></p> <p><b>D Levodopa</b></p> <p><b>E Prozerin</b></p>	Isosorbide mono nitrate is a challenge because only it is a nitrate derivative and has a long-lasting effect.
59.	The patient with arterial hypertension was assigned a diuretic hypothiazide of 0.025 g twice a day in the morning. A week later, the patient began to experience pain in the heart area, muscle weakness and limb tremor. What is the side effect of the drug?	<p><b>A * Hypokalemia</b></p> <p><b>B Arterial hypertension</b></p> <p><b>C Hyperglycemia</b></p> <p><b>D Hypercalcemia</b></p> <p><b>E Hypomagnesemia</b></p>	Hypothiazide refers to potassium excretion diuretics. These symptoms are signs of hypokalemia.
60.	The patient of 74 years was prescribed long-term administration of furosemide for the treatment of chronic heart failure. What drug is advisable to prescribe it to prevent hypokalemia?	<p><b>A * Asparkam</b></p> <p><b>B Trimetazidine</b></p> <p><b>C Nifedipine</b></p> <p><b>D Corvaltab</b></p> <p><b>E Verapamil</b></p>	Asparkam contains potassium and magnesium ions. Given that furosemide contributes to their loss, the use of aspartame is appropriate.
61.	Dry cough that occurs on the background of receiving lisinopril associated with:	<p><b>A * Bradykinin accumulation</b></p> <p><b>B Reduced blood pressure</b></p> <p><b>C Increasing the level of calcium in the blood</b></p> <p><b>D Reduced left ventricular remodeling</b></p> <p><b>E Nephroprotective</b></p>	ACE inhibitors (lisinopril and others) contribute to the synthesis of bradykinin, which causes swelling of the bronchial mucosa and causes unproductive cough.

		<i>action</i>	
62.	A patient with arterial hypertension and chronic bronchitis suddenly had dry cough, shortness of breath; body temperature has not changed. It is known that the patient is taking captopril. This phenomenon can be explained by the increased formation:	<i>A * Bradykinin</i> <i>B Angiotensin II</i> <i>C Renin</i> <i>D Aldosterone</i> <i>E Na-urethic peptide</i>	ACE inhibitors (captopril and others) contribute to the synthesis of bradykinin, which causes swelling of the mucous membranes of the bronchus and causes unproductive cough.
63.	Patient with hypertension was assigned diuretic as part of complex therapy a person who caused hypokalemia. Identify this drug:	<i>A * Hydrochlorothiazide</i> <i>B Amiloride</i> <i>C Spironolactone</i> <i>D Allopurinol</i> <i>E Triamterene</i>	Of the diuretics listed in the answers, hydrochlorothiazide is a diuretic that removes potassium ions.
64.	A 70-year-old patient with angina came to the pharmacy claiming that he had been released from a medication that had caused severe head-shattering pain, although the angina attack had been eliminated. Which anti-anginal agent is characterized by such a side effect?	<i>A * Nitrosorbide</i> <i>B Amlodipine</i> <i>C Nifedipine</i> <i>D Trimetazidine</i> <i>E Metoprolol</i>	Nitrates cause a rise in brain pressure due to impaired venous outflow, and therefore cause headaches.
65.	A 67-year-old patient with chronic heart failure is receiving digoxin. To reduce the side effect of digoxin, the doctor advised to combine it with the following drug:	<i>A * Panangin</i> <i>C Calcium gluconate</i> <i>B Euphilin</i> <i>D Dichlorothiazide</i> <i>E Calcium chloride</i>	Cardiac glycosides reduce potassium levels, so potassium preparations are prescribed in conjunction with them.
66.	A patient who receives treatment for hypertension complains of coughing. No changes in the lung were detected during the examination of the patient. Which of the following could have caused a cough?	<i>A * Captopril</i> <i>B Amlodipine</i> <i>C Hypothiazide</i> <i>D Nebivolol</i> <i>E Klofelin</i>	ACE inhibitors (captopril and others) cause the development of dry cough. This is appropriate for the task.
67.	The patient with hypertension was given diuretic in complex therapy, which caused hypokalemia. Identify this drug:	<i>A * Hydrochlorothiazide</i> <i>B Amiloride</i> <i>C Spironolactone</i> <i>D Allopurinol</i> <i>E Triamterene</i>	Only the hydrochlorothiazide from the listed diuretics is the one that removes potassium from the body.
68.	What drug can cause the development of constipation in a patient receiving combination therapy for hypertension?	<i>A * Verapamil</i> <i>B Furosemide</i> <i>C Trimetazidine</i> <i>D Panangin</i> <i>E Acetylsalicylic acid in small doses</i>	Verapamil is a calcium antagonist with a predominantly cardiotropic effect, reducing the flow of calcium ions into the smooth muscles of the intestine and reducing its motor and motor activity, which may be accompanied by the development of constipation.
69.	A 68-year-old patient has been using furosemide for a long time to treat heart failure. Specify a remedy for the prevention of hypokalemia when taking furosemide:	<i>A * Panangin</i> <i>B ATP Long</i> <i>C Mildronate</i> <i>D Trimetazidine</i> <i>E Sustak Forte</i>	Furosemide is a diuretic that removes potassium. Therefore, the use of potassium with it (panangin).
70.	A patient with a hypertensive crisis was introduced with a ganglioblocker - benzohexone. Which side effect should you be aware of after administering the drug?	<i>A * Orthostatic hypotension</i> <i>B Discrimination Syndrome</i> <i>C Suppressive effect on</i>	Ganglioblockers quickly reduce blood pressure due to significant vasodilation, which

		<i>the central nervous system</i> <i>D Disturbance of taste sensations</i> <i>E Diarrhea</i>	can cause orthostatic collapse.
71.	Digoxin is prescribed to patients with chronic heart failure and chronic renal failure. A week later, bradycardia, extrasystole, deterioration of visual acuity, and impaired color perception occurred. How will you interpret the changes in the clinical picture?	<i>A * Digital Toxicity</i> <i>B Complications of chronic heart failure</i> <i>C Complications of chronic renal failure</i> <i>D Arterial hypotension</i> <i>E Ipochondric syndrome</i>	Digoxin intoxication can be triggered by the presence of renal failure due to the fact that digoxin is excreted by the kidneys.
72.	A patient of 45 years during the last year has been taking nitrates of prolonged action 2 times a day. Currently, there is a decrease in the effectiveness of pharmacotherapy. What side effect can be foreseen in the first place?	<i>A * Development of nitrate tolerance</i> <i>B Progression of coronary heart disease</i> <i>C Progression of coronary atherosclerosis</i> <i>D Myocardial infarction</i> <i>E Deterioration of coronary circulation</i>	A side effect that develops with prolonged use of nitrates, caused by a decrease in nitric oxide levels and sensitivity of receptors, requires discontinuation of therapy and replacement of drugs.
73.	A pharmacy visitor complained of a squeezing chest pain with irradiation in his left hand, fear of death. The pain is known to occur suddenly after exercise. What is the first aid	<i>A * Nitroglycerin</i> <i>B Naftizin</i> <i>C Panangin</i> <i>D Riboxin</i> <i>E Metacyclin</i>	Nitroglycerin, a short-acting nitrate, is a major indication for its use in the treatment of acute angina.
74.	In the treatment of hypertension in order to increase the excretion of sodium and water, it is advisable to use drugs of this group:	<i>A * Diuretics</i> <i>B Selective alpha1-blockers</i> <i>C Sympatholytics</i> <i>D Beta2-adrenoreceptor agonists</i> <i>E Direct vasodilators</i>	According to the mechanism of action diuretics violate the reabsorption of sodium and water, which meets the conditions of the task.
75.	In a patient of 54 years suffering from hypertension, a phenomenon of bronchospasm occurred on the background of pharmacotherapy. The doctor regarded this as a complication of the therapy that caused the drug of this group:	<i>A * Beta-blockers</i> <i>B Alpha blockers</i> <i>C Ganglioblockers</i> <i>D Calcium antagonists</i> <i>E Diuretics</i>	Beta-blockers due to the blockade of beta2-adrenoreceptors of the bronchi can cause a side effect in the form of bronchospasm.
76.	The patient on the background of pharmacotherapy of arterial hypertension had a dry cough. Which group of drugs is characterized by such a side effect?	<i>A * ACE inhibitors</i> <i>B Neuroleptics</i> <i>C Tranquilizers</i> <i>D Antacids</i> <i>E Calcium antagonists</i>	ACE inhibitors increase the release of bradykinin and thus cause swelling of the bronchial mucosa and cough.
77.	The patient receives heparin for acute myocardial infarction. On day 3 hematuria appeared, subcutaneous hematomas. What drug should be given to the patient as an antidote?	<i>A * Protamine sulfate</i> <i>B Vikasol</i> <i>C Acetylsalicylic acid</i> <i>D Clopidrogel</i> <i>E Streptokinase</i>	Protamine is a specific antidote for overdosage with direct anticoagulants (heparin).
78.	A patient 60 years after suffering a myocardial infarction was prescribed acetylsalicylic acid as an antiplatelet agent. Specify the optimal daily antiplatelet dose of acetylsalicylic acid:	<i>A * 100 mg</i> <i>B 200 mg</i> <i>C 300 mg</i> <i>D 400 mg</i> <i>E 500 mg</i>	Small doses (average 100 mg daily) of aspirin are used as an antiaggregant.
79.	Patient 63 years old with coronary heart disease was diagnosed with squamous glaucoma. Which of the following drug groups is contraindicated in this case?	<i>A * Nitrates</i> <i>B Statins</i> <i>C Beta-blockers</i> <i>D Anticoagulants</i> <i>E Calcium antagonists</i>	Nitrates increases intraocular pressure, that's contraindicated in case of glaucoma.
80.	The patient with arterial hypertension receiving	<i>A * Hyperkalemia</i>	ACE inhibitors

	<p>captopril was prescribed potassium diuretic spironolactone. What complication of therapy can this combination lead to?</p>	<p><b>B Hypertension</b>  <b>C Hyponatremia</b>  <b>D Hypocalcaemia</b>  <b>E Hypoglycemia</b></p>	<p>(captopril and others) have a possible side effect - hyperkalemia. Therefore, their combined use with potassium-sparing diuretics is undesirable.</p>
81.	<p>A 43-year-old woman came into the pharmacy complaining of a sharp headache in the occipital region, palpitations, flashing "flies" before her eyes, nausea. ABP level - 180/110 mm Hg. What is the status of these symptoms?</p>	<p><b>A * Hypertensive crisis</b>  <b>B Migraine attack</b>  <b>C Attack of angina pectoris</b>  <b>D Acute conjunctivitis</b>  <b>E Osteochondrosis of the cervical vertebrae</b></p>	<p>These symptoms are characteristic of a sharp rise in blood pressure, called hypertensive crisis.</p>
82.	<p>Consult a patient with angina pectoris who is taking nitrates of prolonged action. What side effect is most characteristic of these agents?</p>	<p><b>A * Headache</b>  <b>B Nausea</b>  <b>C Vomiting</b>  <b>D Constipation</b>  <b>E Diarrhea</b></p>	<p>Nitrates increase intracranial pressure and cause headache.</p>
83.	<p>A pregnant woman complained to the doctor with complaints about raising blood pressure up to 160/100 mm Hg. What antihypertensive drug can you use?</p>	<p><b>A Methyldopa</b>  <b>B Reserpine</b>  <b>C Enalapril</b>  <b>D Bisoprolol</b>  <b>E Losartan</b></p>	<p>The standard of treatment for gestational hypertension in pregnancy is the drug of choice is methyldopa.</p>
84.	<p>A doctor prescribed the drug simvastatin to the patient to correct hyperlipidemia. Why should the selected daily dose be taken once in the evening?</p>	<p><b>A *Cholesterol biosynthesis occurs mainly at night</b>  <b>B Risk of myopathy decreases</b>  <b>C Receptor sensitivity to low-density lipoproteins increases</b>  <b>D Catabolism rate of low-density lipoproteins increases</b>  <b>E Absorption of the drug increases at night</b></p>	<p>According to chronophysiology data, the biosynthesis of endogenous cholesterol in the liver is most active at night. Therefore, taking statins is necessary in the evening, as they inhibit the liver synthesis of cholesterol.</p>
85.	<p>A 50-year-old woman complains of headache, dizziness, visual snow, nausea. The skin of her face is hyperemic. Her heart rate is 85/min, her blood pressure – 210/120 mm Hg. What is the provisional diagnosis in this case?</p>	<p><b>A *Hypertensive crisis</b>  <b>B Myocardial infarction</b>  <b>C Angina pectoris attack</b>  <b>D Meningococcal infection</b>  <b>E Hemorrhagic stroke</b></p>	<p>The described clinical picture is characteristic of a hypertensive crisis.</p>

### TOPIC 3. Clinical pharmacy in pulmonology

№	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	<p>Which of the following drugs is the drug of choice for the prevention of bronchial asthma attacks?</p>	<p><b>A * Cromoline sodium</b>  <b>B Salbutamol</b>  <b>C Drotaverin</b>  <b>D Dimedrol</b>  <b>E Ambroxol</b></p>	<p>Cromolin-sodium and other cromones stabilize the membranes of mucous cells and thus release histamine, which allows it to be used precisely to prevent asthma attacks.</p>

2	Consult a physician who may be most likely to replace acetylcysteine missing from the drug:	<p><b>A * Ambroxol</b>  <b>B Sodium chloride</b>  <b>C Codeine phosphate</b>  <b>D Libexin</b>  <b>E Sodium bicarbonate</b></p>	Acetyl cysteine and ambroxol are drugs of the same pharmacological group, namely mucolytics. Other drugs do not meet the conditions of the task.
3.	Glaucone hydrochloride is released at the pharmacy of a patient with chronic bronchitis. What is the typical side effect of the drug to warn the patient?	<p><b>A * Reduced blood pressure</b>  <b>B Excitation of the central nervous system</b>  <b>C Heart rhythm disturbance</b>  <b>D Increasing intraocular pressure</b>  <b>E Allergic skin rashes</b></p>	Peripheral-type antitussive agents are capable of reducing blood pressure as a possible side effect.
4.	Recommend to a patient with bronchial asthma an inhalation agonist of $\beta_2$ -adrenoreceptors of prolonged action:	<p><b>A * Salmeterol</b>  <b>B Clemastin</b>  <b>C Theophilin</b>  <b>D Cromoline sodium</b>  <b>E Iproprium bromide</b></p>	Of these drugs, salmeterol meets the conditions of the task, because it applies to long-acting beta2-adrenoreceptor stimulators.
5.	Patients receiving complex therapy for bronchial asthma receive salbutamol. What side effects may develop on the background of this medicine?	<p><b>A * Tremor</b>  <b>B Dysbacteriosis</b>  <b>C Hyperthermia</b>  <b>D Nephrotoxicity</b>  <b>E Hepatotoxicity</b></p>	Salbutamol overdose can increase CNS activity and cause tremor.
6.	The patient was diagnosed with asthmatic status. What is the special feature shown first?	<p><b>A * Prednisolone</b>  <b>B Ambroxol</b>  <b>C Papaverine</b>  <b>D Mucaltin</b>  <b>E Suprastin</b></p>	Severe exacerbation of bronchial asthma - status - involves pre-dosing glucocorticoids (prednisolone).
7.	What medicines are used to treat bronchospasm?	<p><b>A * <math>\beta</math>-adrenomimetics</b>  <b>B <math>\beta</math>-blockers</b>  <b>C <math>\alpha</math>-adrenomimetics</b>  <b>D Cholinesterase inhibitors</b>  <b>E M-cholinomimetics</b></p>	Agents that stimulate beta 2-adrenoreceptors of the bronchi are used to treat bronchospasm and asthma.
8.	A 40-year-old patient suffers from bronchial asthma and cardiac arrhythmias in the form of bradyarrhythmia. Which pharmacological group should be used to treat bronchospasm?	<p><b>A * M-cholinoblockers</b>  <b>B <math>\beta</math>-blockers</b>  <b>C M-cholinomimetics</b>  <b>D Anticholinesterase agents</b>  <b>E Muscle relaxants</b></p>	M-cholinoblockers have a bronchodilatory effect and increase heart rate, so they can be used to treat combined pathology.
9.	What is the most advisable way to start the treatment of a patient who first developed an attack of bronchial asthma?	<p><b>A * Inhalations of <math>\beta_2</math>-adrenomimetics</b>  <b>B Glycocorticosteroid inhalation</b>  <b>C Adrenomimetics parenteral</b>  <b>D M-cholinolytics</b>  <b>E H2-histamine blockers</b></p>	The remedies stimulate the beta2-adrenoreceptors of the bronchi, which is accompanied by their expansion and termination of the asthma attack.
10.	Bronchodilatory effect in the appointment of $\beta_2$ -agonist short-acting - salbutamol develops through:	<p><b>A * 5-10 minutes</b>  <b>B 20-30 minutes</b>  <b>C 45-60 minutes</b>  <b>D 2-3 hours</b>  <b>E 4-6 hours</b></p>	Salbutamol is a short-acting beta2-adrenoreceptor agonist, so its pharmacokinetic parameters take effect



			within the first 5-10 minutes.
11.	What non-narcotic central cough drug can be used for dry cough?	<b>A * Glaucine</b> <b>B Codeine</b> <b>C Acetylcysteine</b> <b>D Ambroxol</b> <b>E Mucaltin</b>	Of the two cough suppressants listed (glaucin and codeine), glaucine is a non-narcotic.
12.	Advise the patient with acute bronchitis a mucolytic drug that facilitates expectoration:	<b>A * Acetylcysteine</b> <b>B Glaucine</b> <b>C Loratadine</b> <b>D Diclofenac sodium</b> <b>E Drotaverine hydrochloride</b>	Acetylcysteine is a mucolytic and an expectorant. This is appropriate for the task.
13.	The patient was prescribed a drug from the group of $\beta$ -adrenomimetics for the treatment of bronchial asthma. Specify this drug:	<b>A * Salbutamol</b> <b>B Diazepam</b> <b>C Doxycycline</b> <b>D Nitroglycerin</b> <b>E Digoxin</b>	From the group of beta-adrenomimetics of these drugs, only salbutamol is known.
14.	What drug from the group of bronchoselective $\beta_2$ -adrenomimetics can replace fenoterol in inhalation in the absence of it in the pharmacy?	<b>A * Salbutamol</b> <b>B Isadrine</b> <b>C Methacin</b> <b>D Ephedrine</b> <b>E Eufilin</b>	Fenoterol and salbutamol belong to the group of selective beta <sub>2</sub> -adrenomimetics, so replacement is possible.
15.	The patient with bronchial asthma was prescribed salbutamol. The use of this drug eliminated the symptoms of bronchospasm. This is related to stimulation:	<b>A * <math>\beta_2</math>-adrenoceptors</b> <b>B <math>\alpha_1</math>-adrenoceptors</b> <b>C M-cholinoreceptors</b> <b>D Acetylcholine synthesis</b> <b>E <math>\beta_1</math>-adrenoceptors</b>	In the bronchi are located beta <sub>2</sub> -adrenoreceptors, stimulation of which leads to their expansion and the elimination of symptoms of bronchial asthma.
16.	A 46-year-old man with chronic bronchitis went to the pharmacy. What medication can you recommend for ease of thick and viscous sputum?	<b>A * Ambroxol</b> <b>B Falimint</b> <b>C Libexin</b> <b>D Glauvent</b> <b>E Salbutamol</b>	Ambroxol is a mucolytic and an expectorant. This is appropriate for the task.
17.	A 48-year-old patient was administered intravenously a solution of prednisolone to relieve a severe onset of bronchial asthma. Which group of hormones does prednisolone belong to?	<b>A * Glucocorticoids</b> <b>B Gestagenic preparations</b> <b>C Estrogens</b> <b>D Mineralocorticoids</b> <b>E Anabolic steroids</b>	Prednisolone is attributed to systemic glucocorticoids. This is appropriate for the task.
18.	A 67-year-old patient treated for bronchial asthma experienced limb tremors, headache, insomnia, and extrasystole. What drug could cause these symptoms?	<b>A * Theophylline</b> <b>B Prednisolone</b> <b>C Tavegil</b> <b>D Intal</b> <b>E Acetylcysteine</b>	Of these drugs it is theophylline (euphilin) that stimulates the function of the CNS, exhibits cardiotoxicity, so it can provoke these side symptoms.
19.	A patient with a severe dry cough went to the pharmacy. Which medication do you recommend the patient use to suppress the unproductive cough reflex?	<b>A * Libexin</b> <b>B Trypsin</b> <b>C Acetylcysteine</b> <b>D Potassium iodide</b> <b>E Sodium bicarbonate</b>	Libexin is an antitussive agent of peripheral type of action and is used as an antitussive agent.
20.	A patient with bronchial asthma receives a drug from the group of $\beta$ -adrenomimetics. Name this drug:	<b>A * Salbutamol</b> <b>B Doxasozine</b> <b>C Aceclidin</b> <b>D Atropine sulfate</b> <b>E Metoprolol</b>	Of these drugs, only salbutamol belongs to the group of beta-adrenomimetics and meets the conditions of the task.

21.	For what purpose is a patient suffering from bronchial asthma prescribed intal (cromolin sodium)?	<i>A * To prevent the development of an attack of bronchial asthma</i> <i>B To eliminate asthmatic status</i> <i>C To eliminate bronchial asthma attack</i> <i>D To improve sputum drainage</i> <i>E For cough suppression</i>	Sodium cromolin is a stabilizer of the membranes of scaly cells in which histamine accumulates, so it is used to prevent seasonal exacerbation of bronchial asthma.
22.	The patient with bronchial asthma is prescribed in the form of an aerosol M-cholinoblockers, which is poorly absorbed from the mucous membrane of the bronchi. Specify this drug:	<i>A * Ipratropium bromide</i> <i>B Atropine sulfate</i> <i>C Somatotropin</i> <i>D Scopolamine</i> <i>E Physostigmine</i>	Among these agents, ipratropia bromide is a selective M-cholin blocker for the treatment of bronchial obstructive diseases.
23.	The patient with acute bronchitis was assigned a mucolytic. Name the drug:	<i>A * Acetylcysteine</i> <i>B Glaucine</i> <i>C Codeine phosphate</i> <i>D Etimizol</i> <i>E Bemegrid</i>	Acetylcysteine is a mucolytic and an expectorant. This is appropriate for the task.
24.	A patient with bronchial asthma was attacked for a long time with a drug attack, after which he experienced nausea, headache, agitation and palpitations. Which of the following drugs could have caused such a reaction?	<i>A * Eufilin</i> <i>B Suprastin</i> <i>C Papaverine hydrochloride</i> <i>D Prednisolone</i> <i>E Ambroxol</i>	Of these drugs euphilin stimulates CNS function, exhibits cardiotoxicity, so it can provoke these side symptoms.
25.	A pharmacy visitor, 46 years old with chronic bronchitis, has sought the purchase of the drug to facilitate the thickening of viscous sputum. What medicine is shown in this case?	<i>A * Ambroxol</i> <i>B Butamirate</i> <i>C Salbutamol</i> <i>D Oxeladine</i> <i>E Codeine phosphate</i>	Ambroxol is a mucolytic and an expectorant. This is appropriate for the task.
26.	The patient had complaints of hypersalivation, runny nose, skin rashes, and itching (phenomena of iodism) while receiving expectorant. Please indicate which remedy triggered these adverse reactions:	<i>A * Potassium iodide</i> <i>B Mucaltin</i> <i>C Infusion of thermopsis herbs</i> <i>D Ambroxol syrup</i> <i>E Ammonium chloride</i>	Iodine is excreted through the respiratory tract and, above all, causes these side effects.
27.	Recommend to a patient with bronchial asthma an inhaled beta2-adrenoreceptor agonist of prolonged action:	<i>A * Salmeterol</i> <i>B Ipratropium bromide</i> <i>C Cromolin sodium</i> <i>D Clemastine</i> <i>E Euphilin</i>	Salmeterol is a beta-adrenoceptor stimulant located in the bronchi, and lasts for up to 24 hours. It is used for long-term treatment of bronchial asthma.
28.	A 46-year-old patient has chronic bronchitis. What medicine can be purchased at a pharmacy to facilitate the discharge of thick and viscous sputum?	<i>A*Ambroxol</i> <i>B Salbutamol</i> <i>C Libexin</i> <i>D Dextromethorphan</i> <i>E Butamirate</i>	Of the listed drugs, only ambroxol can be used to solve the problem, as it is a mucolytic and expectorant.

#### TOPIC 4. Clinical Pharmacy in Gastroenterology

№	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	The most effective drug for the prevention of NSAID-associated gastropathy are:	<i>A * Omeprazole</i> <i>B Celecoxib</i> <i>C Papaverine</i>	Omeprazole and other proton pump inhibitors have the additional

		<b>D Drotaverin</b> <b>E Ceftriaxone</b>	effect of stimulating the synthesis of gastroprotective prostaglandin, which determines their protective role when using non-steroidal anti-inflammatory drugs.
2.	The patient with helicobacter associated peptic ulcer is prescribed a course of treatment. Which of the following agents is intended as an etiotropic pharmacotherapy?	<b>A * Clarithromycin</b> <b>B Sucralfate</b> <b>C Famotidine</b> <b>D Ranitidine</b> <b>E Aluminum hydroxide</b>	Clarithromycin - macrolide of the second generation is included in the standard of etiotropic anthelicobacter bacterial therapy for peptic ulcer. Other means of pathogenetic therapy of the disease.
3.	What is the most common side effect that patients need to be informed about when releasing antacids based on aluminum compounds?	<b>A * Constipation</b> <b>B Diarrhea</b> <b>C Heartburn</b> <b>D Dysbacteriosis</b> <b>E Urinary tract difficulty</b>	Antacids containing aluminum inhibit the intestinal motor function and therefore cause a side effect - constipation.
4.	Name the blocker of H2-histamine receptors used in the treatment of gastric ulcer with advanced secretory function:	<b>A * Famotidine</b> <b>B Atropine sulfate</b> <b>C Proserine</b> <b>D Dobutamine</b> <b>E Loratadine</b>	Famotidine is a H2 histamine blocker and reduces the production of hydrochloric acid in the stomach. This is appropriate for the task.
5.	Choose a remedy for symptomatic treatment of heartburn:	<b>A * Antacids</b> <b>B Analgesics</b> <b>C Spasmolytics</b> <b>D Proton pump blockers</b> <b>E Choloretics</b>	Antacids that are poorly absorbed in the gastrointestinal tract neutralize the residue of stomach hydrochloric acid and are used for symptomatic treatment of heartburn.
6.	Which group of drugs are used to bind gases, toxins and bacterial cells in the gut?	<b>A * Enterosorbents</b> <b>B Antibiotics</b> <b>C Spasmolytics</b> <b>D Antisecretory</b> <b>E Enzyme</b>	From these answers, the group of enterosorbents meets the conditions of the task and is used for the symptoms.
7.	Patient with dyskinesia of the biliary tract by the hypokinetic type is prescribed a drug that stimulates bile synthesis. Name this drug:	<b>A * Allohol</b> <b>B Essential phospholipids</b> <b>C Mebeverine</b> <b>D Papaverine</b> <b>E Drotaverine</b>	Alcohol is a cholecretic and increases the formation of bile. This is appropriate for the task.
8.	The patient receives pharmacotherapy for peptic ulcer of the stomach. What medication causes the stool to become black?	<b>A * Bismuth Subcitrate</b> <b>B Omeprazole</b> <b>C Maalox</b> <b>D Famotidine</b> <b>E Pancreatin</b>	For the purpose of preparations of colloidal bismuth (denol) is characterized by interaction with the fecal masses and the change to black color of bowel movements.
9.	In a patient of 46 years after partial resection of the stomach, there were complaints of general weakness,	<b>A * Cyanocobalamin</b> <b>B Sorbifer durules</b>	Cyanocobalamin is a synthetic vitamin B12

	impaired appetite, numbness and pain in the extremities, a feeling of "crawling ants", a burning sensation in the tongue. B12-deficiency anemia was diagnosed. What drug is appropriate for the patient?	<i>C Erythropoietin</i> <i>D Prednisolone</i> <i>E Vinblastine</i>	substitute, so it can be used in this case.
10.	The patient was prescribed an antacid containing aluminum hydroxide. What is the most common undesirable reaction that should occur to the patient?	<i>A * Constipation</i> <i>B Flatulence</i> <i>C Diarrhea</i> <i>D Reduced appetite</i> <i>E Nausea</i>	Antacids, containing aluminum, inhibit the motor-motor function of the intestine and cause constipation.
11.	Answer the question of the medical examiner: "Which attenuator improves uterine tone?"	<i>A * Castor oil</i> <i>B Vaseline oil</i> <i>C Olive oil</i> <i>D Glycerin</i> <i>E Sunflower oil</i>	Castor oil not only increases intestinal tone, but also stimulates uterine tone, which can be dangerous.
12.	A patient with chronic pancreatitis with pronounced manifestations of insufficiency of the external secretory function of the pancreas has addressed to you. Which of the following drugs is most appropriate to prescribe in this case?	<i>A * Pancreatin</i> <i>B Drotaverine</i> <i>C De-Nol</i> <i>D Omeprazole</i> <i>E Acidin-pepsin</i>	Pancreatin and other enzyme agents meet the requirements of the task and are used as replacement therapy for chronic pancreatitis.
13.	A patient of 54 years who has several years suffering from chronic hyperacid gastritis is prescribed almagel. What complications of digestive pharmacotherapy can occur first?	<i>A * Constipation</i> <i>B Nausea</i> <i>C Anorexia</i> <i>D Bleaking</i> <i>E Diarrhea</i>	Antacid preparations containing aluminum (almagel), suppress the motor-motor function of the intestine and cause constipation.
14.	The doctor advised the patient of an ulcer that blocks histamine H2 receptors of the gastric mucosa. Name this drug:	<i>A * Famotidine</i> <i>B Omeprazole</i> <i>C Almagel</i> <i>D Atropine sulfate</i> <i>E Pyrenzepine</i>	Famotidine and other H2-histamine blockers have an anti-secretory effect used to treat peptic ulcer disease.
15.	Post-operative bowel atony developed in the elderly patient. What anticholinesterase drug is shown to it?	<i>A * Proserine</i> <i>B Ditiline</i> <i>C Polycarpine hydrochloride</i> <i>D Atropine sulfate</i> <i>E Metoprolol</i>	By blocking the activity of choline esterase, proserin increases the concentration of aceticholine and, thus, its stimulating effect on the cholinoreceptors of the intestine and its motor activity.
16.	When answering the doctor-surgeon's questions about the possibility of long-term conservative treatment and resorption of cholesterol stones in the gallbladder, appoint the recommended doctor:	<i>A * Ursodeoxycholic acid</i> <i>B Chofitol</i> <i>C Allohol</i> <i>D Liobil</i> <i>E Legalon</i>	Preparations of bile acids change the composition of bile, have a litholytic effect and are used for resorption of cholesterol bile concretions.
17.	Which laxative enhances uterine tone?	<i>A * Castor oil</i> <i>B Vaseline oil</i> <i>C Olive oil</i> <i>D Glycerol</i> <i>E Sunflower oil</i>	Not only does castor oil boost intestinal tone, it also stimulates uterine tone, which can be dangerous.
18.	The patient has chronic type A gastritis with decreased secretory function, pernicious anemia. Which drug is indicated to the patient?	<i>A * Cyanocobalamin</i> <i>B Adrenaline</i> <i>C Diphenhydramine</i> <i>D Vicalin</i> <i>E Drotaverine</i>	At the heart of pernicious anemia is vitamin B12 deficiency. Cyanocobalamin containing vitamin

			B12 is used for replacement therapy.
19.	The patient is diagnosed with peptic ulcer. Which of the following drug groups should be used in complex patient therapy?	<p><b>A * Blockers of 2 histamine receptors</b></p> <p><b>B 1 histamine receptor blockers</b></p> <p><b>C <math>\alpha</math>-blockers</b></p> <p><b>D <math>\beta</math>-blockers</b></p> <p><b>E <math>\alpha</math>-<math>\beta</math>-adrenomimetics</b></p>	From these answers, only H2-histaminoblockers have antisecretory activity and are used in peptic ulcer disease.
20.	The patient with peptic ulcer was assigned ranitidine. The acidity of gastric juice decreased significantly. What mechanism underlies the action of this drug?	<p><b>A * Blockade of H2-histamine receptors</b></p> <p><b>B H1-histamine receptor blockade</b></p> <p><b>C Blockade of M - cholinoreceptors</b></p> <p><b>D Suppression of H + K + ATPase activity</b></p> <p><b>E Blockade of H-cholinoreceptors of the autonomic ganglia</b></p>	Ranitidine blocks the gastric H2 histamine receptors and thus has antisecretory activity.
21.	For a patient with gallstone disease, the following acid is prescribed for the dissolution of cholesterol gallstones:	<p><b>A * Ursodeoxycholic</b></p> <p><b>B Gama-aminobutyric</b></p> <p><b>C Acetylsalicylic</b></p> <p><b>D Lemon</b></p> <p><b>E Mephenamine</b></p>	Preparations of bile acids change the composition of bile, have a litholytic effect and are used for resorption of cholesterol bile concretions.
22.	Hyperchromic anemia is revealed in a patient who has been suffering from a long-term illness of the stomach. Which of the following agents is used to treat this pathology?	<p><b>A * Cyanocobalamin</b></p> <p><b>B Ascorbic acid</b></p> <p><b>C Unityol</b></p> <p><b>D Ferum Lek</b></p> <p><b>E Oxyferriscorbon</b></p>	At the heart of hyperchromic anemia is vitamin B12 deficiency. Cyanocobalamin containing vitamin B12 is used for replacement therapy.
23.	A patient with peptic ulcer was assigned to almagel. Which of the pharmacological properties of the drug is used to treat this pathology?	<p><b>A * Neutralization of HC l</b></p> <p><b>B Local anesthetic</b></p> <p><b>C H2-histamine receptor blockade</b></p> <p><b>D Blockade of M - cholinoreceptors</b></p> <p><b>E Anti-inflammatory effect</b></p>	Almagel is an antacid that is poorly absorbed in the gastrointestinal tract. Its main pharmacological effect is to neutralize the residue of gastric hydrochloric acid.
24.	Which drug belonging to the group of laxatives CANNOT be prescribed for poisoning with CNS suppressants?	<p><b>A * Magnesium sulfate</b></p> <p><b>B Sodium sulfate</b></p> <p><b>C Vaseline oil</b></p> <p><b>D Bisacodyl</b></p> <p><b>E Gutalax</b></p>	Magnesium sulfate, when interacted with CNS suppressants, increases the risk of neurotoxicity.
25.	For the treatment of a patient with peptic ulcer of the stomach the use of a drug with gastrocytoprotective activity is shown. Choose this friend:	<p><b>A * Sukralfat</b></p> <p><b>B Belladonna extract dry</b></p> <p><b>C Methacin</b></p> <p><b>D Atropine sulfate</b></p> <p><b>E Platyphilin hydrotartrate</b></p>	Sukralfat meets the requirements of the task and belongs to the group of gastrocytoprotectors.
26.	For long-term administration of aluminum-containing antacids, it is noted:	<p><b>A * Bone lesions</b></p> <p><b>B Hearing loss</b></p> <p><b>C Polyuria</b></p> <p><b>D Salivation</b></p> <p><b>E Hypercholesterolemia</b></p>	Antacids containing aluminum slow the absorption of calcium and phosphorus and can trigger osteoporosis.

27.	Famotidine is prescribed for the treatment of peptic ulcer disease. Specify the mechanism of action of the drug:	<b>A * Blocks H<sub>2</sub>-histamine receptors</b> <b>B Stimulates H<sub>2</sub>-histamine receptors</b> <b>C Stimulates <math>\alpha</math>-adrenoceptors</b> <b>D Blocks <math>\beta</math>-adrenoceptors</b> <b>E Stimulates M-choline receptors</b>	Famotidine meets the requirements of the task and belongs to the group of H <sub>2</sub> -histamine blockers.
28.	In the course of anthelicobacter quadrotherapy, the patient had a black stool. What drug could have caused such a side effect?	<b>A * Bismuth Subcitrate</b> <b>B Omeprazole</b> <b>C Clarithromycin</b> <b>D Mronidazole</b> <b>E Amoxicillin</b>	For the purpose of preparations of colloidal bismuth (denol) is characterized by interaction with the fecal masses and the change to black color of bowel movements.
29.	A patient with helicobacter-associated peptic ulcer is assigned a course of treatment. Which of the following is intended as etiotropic pharmacotherapy?	<b>A * Clarithromycin</b> <b>B Ranitidine</b> <b>C Famotidine</b> <b>D Sucralfate</b> <b>E Aluminum hydroxide</b>	Clarithromycin, an antibiotic of the second generation of macrolides, has anthelicobacterial activity and can therefore be used for the etiotropic treatment of peptic ulcer disease.
30.	Examination detected atrophic gastritis and B12-deficiency anemia in a patient. What drug should be prescribed in this case?	<b>A *Cyanocobalamin</b> <b>B Folic acid</b> <b>C Iron fumarate</b> <b>D Sodium nucleinate</b> <b>E Erythropoetin</b>	Cyanocobalamin is an analogue of vitamin B12 and is used for replacement therapy of this type of anemia.
31.	A 44-year-old man was diagnosed with chronic hyperacid gastritis. What pharmacological group of drugs would be optimal in this case?	<b>A * Proton pump inhibitors</b> <b>B Glucocorticosteroids</b> <b>C Inhibitors of proteolytic enzymes</b> <b>D Beta-blockers</b> <b>E Alpha-blockers</b>	Given the patient's increased acidity, he is prescribed antisecretory agents. In this case, these are proton pump inhibitors.
32.	A woman came to a doctor with complains of heartburn. She has been taking diclofenac sodium for a long time due to diagnosed rheumatoid arthritis. What medicine can the doctor prescribe for the prevention of gastropathy?	<b>A * Omeprazole</b> <b>B Papaverine hydrochloride</b> <b>C Clarithromycin</b> <b>D Acetylsalicylic acid</b> <b>E Metoclopramide</b>	Proton pump inhibitors (omeprazole) increase the synthesis of gastroprotective prostaglandin and are indicated for the prevention of the ulcerogenic effect of NSAIDs (diclofenac sodium).

#### TOPIC 5. Clinical pharmacy of anti-inflammatory drugs

№	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	Specify a medicinal substance that is related to steroid androgen and is a derivative of androstane:	<b>A * Methyltestosterone</b> <b>B Pregnin</b> <b>C Cetinyl estradiol</b> <b>D Prednisolone</b> <b>E Cortisone</b>	Methyltestosterone is an analogue of male androgen hormones, which are among the hormones listed.
2	Choose a medication that selectively inhibits COX-2:	<b>A * Celecoxib</b> <b>B Diclofenac sodium</b>	Of the above drugs celecoxib and other

		<p><i>C Acetylsalicylic acid</i>  <i>D Paracetamol</i>  <i>E Indomethacin</i></p>	coxibs are selectively reducing COX-2 activity. Other agents are non-selective COX-1 and COX-2 inhibitors.
3	In order to treat severe rheumatoid arthritis, a 43-year-old patient was prescribed a drug for basic therapy. Specify it:	<p><i>A * Methotrexate</i>  <i>B Diclofenac sodium</i>  <i>C Nimesulide</i>  <i>D Prednisolone</i>  <i>E Methylprednisolone</i></p>	There are 3 groups of anti-inflammatory drugs. It is methotrexate that is a means of basic therapy. Answers B and C are non-steroidal, D and E are steroidal anti-inflammatory drugs.
4	What kind of antipyretic remedy can be used for a baby at 3 months?	<p><i>A * Paracetamol</i>  <i>B Diclofenac sodium</i>  <i>C Indomethacin</i>  <i>D Acetylsalicylic acid</i>  <i>E Nimesulide</i></p>	Paracetamol is the safest and most appropriate for use in this case. Other drugs either do not have sufficient antipyretic effect, or are contraindicated in childhood.
5	The mother of a 2-month-old baby asked the pharmacy to issue an antipyretic drug. Which drug should you recommend?	<p><i>A * Paracetamol</i>  <i>B Nimesulide</i>  <i>C Acetylsalicylic acid</i>  <i>D Indomethacin</i>  <i>E Diclofenac sodium</i></p>	Paracetamol is the safest and most appropriate for use in this case. Other drugs either do not have sufficient antipyretic effect, or are contraindicated in childhood.
6	A 45-year-old patient with a diagnosis of rheumatoid arthritis and peptic ulcer of the stomach should be given a non-steroidal anti-inflammatory drug. Which drug is most appropriate?	<p><i>A * Celecoxib</i>  <i>B Diclofenac sodium</i>  <i>C Acetylsalicylic acid</i>  <i>D Indomethacin</i>  <i>E Piroxicam</i></p>	Celecoxib is a selective inhibitor of COX-2, which reduces the risk of its damaging effects on the gastric mucosa.
7	To relieve inflammation and pain, the doctor prescribed a medication belonging to the group of non-steroidal anti-inflammatory drugs. Specify this person:	<p><i>A * Diclofenac sodium</i>  <i>B Glibenclamide</i>  <i>C Loratadine</i>  <i>D Prednisolone</i>  <i>E Calcium chloride</i></p>	Diclofenac sodium is the strongest anti-inflammatory drug. Other listed drugs are not in the group of non-steroidal anti-inflammatory drugs.
8	What drug can you recommend for symptomatic treatment of muscle pain in a 5-year-old child?	<p><i>A * Paracetamol</i>  <i>B Acetylsalicylic acid</i>  <i>C Diclofenac sodium</i>  <i>D Indomethacin</i>  <i>E Celecoxib</i></p>	Paracetamol is the safest and most appropriate for use in this case. Others are not shown in childhood.
9	A family doctor prescribed celecoxib for a patient who had been taking diclofenac sodium for a long time. What disease was the reason for the replacement of the drug?	<p><i>A * Peptic gastric ulcer</i>  <i>B Bronchial asthma</i>  <i>C Urolithiasis</i>  <i>D Arterial hypertension</i>  <i>E Chronic hepatitis</i></p>	Celecoxib, in contrast to diclofenac sodium, is a selective inhibitor of COX-2, which implies a decrease in the number and quality of side effects, in this case, ulcerogenic. Therefore, replacement is possible and

			justified.
10	The doctor at the pharmacy asked the woman to release an antipyretic medication for a baby of 8 months. Which drug should I recommend?	<b>A * Paracetamol</b> <b>B Acetylsalicylic acid</b> <b>C Indomethacin</b> <b>D Diclofenac sodium</b> <b>E Piroxicam</b>	Paracetamol is the safest and most appropriate for use in this case. Other drugs either do not have sufficient antipyretic effect, or are contraindicated in childhood.
11	After lifting the load, the patient had a sharp pain in the lower back, which was exacerbated by movements, irradiating into the left leg. Diaphragmatic radiculitis was diagnosed. What can be recommended to the patient?	<b>A * Diclofenac sodium</b> <b>B Drotaverin</b> <b>C Platifylline</b> <b>D Thiamine bromide</b> <b>E Cyanocobalamin</b>	Diclofenac sodium is a non-steroidal anti-inflammatory drug with a strong anti-inflammatory and analgesic effect, which is why it is shown in this case. Other drugs are either vitamins or reduce the tone of the smooth muscle.
12	Which of the following non-steroidal anti-inflammatory drugs has the weakest damaging effect on the mucous membrane of the gastrointestinal tract?	<b>A * Nimesulide</b> <b>B Diclofenac</b> <b>C Indomethacin</b> <b>D Piroxicam</b> <b>E Acetylsalicylic acid</b>	Nimesulide is a non-steroidal anti-inflammatory agent that selectively inhibits COX-2 activity, so its ulcerogenic effect is less significant than that of non-selective drugs.
13	A woman in the third trimester of pregnancy fell ill with SARS with a rise in body temperature to 39°C. What kind of medicine should be offered to her?	<b>A * Paracetamol</b> <b>B Celecoxib</b> <b>C Indomethacin</b> <b>D Acetylsalicylic acid</b> <b>E Diclofenac sodium</b>	Paracetamol at appropriate doses and frequency of administration can be used in this case. Other drugs are contraindicated.
14	Patients with rheumatoid arthritis and concomitant duodenal ulcer should be given a non-steroidal anti-inflammatory drug. Which drug is the drug of choice in this case?	<b>A * Celecoxib</b> <b>B Acetylsalicylic acid</b> <b>C Paracetamol</b> <b>D Analgin</b> <b>E Sodium diclofenac</b>	Celecoxib is a selective COX-2 inhibitor with a lower risk of ulcerogenic action than other drugs. Therefore, its use in this case is appropriate.
15	What kind of analgesic anti-inflammatory drug that can least harm the stomach can advise a patient with exacerbation of rheumatoid arthritis pharmacist informer?	<b>A * Celecoxib</b> <b>B Diclofenac sodium</b> <b>C Acetylsalicylic acid</b> <b>D Ibuprofen</b> <b>E Indomethacin</b>	Celecoxib is a selective COX-2 inhibitor with a lower risk of ulcerogenic action than other drugs. Therefore, its use in this case is appropriate.
16	The pharmacy received a new generation of non-steroidal anti-inflammatory drugs "meloxicam", which is mainly a blocker of cyclooxygenase-2. Indicate the advantages of this drug in comparison with other non-steroidal anti-inflammatory drugs:	<b>A * Minimal side effect on the digestive canal</b> <b>B Expressive myospasmolytic effect</b> <b>C The presence of</b>	Meloxicam is a selective inhibitor of COX-2, so it has, to a lesser extent, side effects, including



		<i>interferonogenic properties</i> <i>D Minimal side effect on hematopoiesis</i> <i>E Significant inhibition of protease activity</i>	ulcerogenic.
17	A 26-year-old pregnant woman (III trimester) complains of a fever of 39°C. What kind of antipyretic medicine can be offered in this situation?	<i>A * Paracetamol</i> <i>B Aspirin</i> <i>C Diclofenac sodium</i> <i>D ANALGINE</i> <i>E Indomethacin</i>	Paracetamol at appropriate doses and frequency of administration can be used in this case. Other drugs are contraindicated.
18	A 57-year-old patient was diagnosed with rheumatoid arthritis, with a history of peptic ulcer disease. Which of the group of non-steroidal anti-inflammatory drugs can be recommended for this patient?	<i>A * Celecoxib</i> <i>B Diclofenac sodium</i> <i>C Aspirin</i> <i>D Indomethacin</i> <i>E Mephenic acid</i>	Celecoxib is a selective COX-2 inhibitor with a lower risk of ulcerogenic action than other drugs. Therefore, its use in this case is appropriate.
19	An elderly woman asked the pharmacy to release her medication to relieve joint pain, and in the anamnesis, a peptic ulcer of the stomach. Which of the following is the safest in this case?	<i>A * Celecoxib</i> <i>B Acetylsalicylic acid</i> <i>C Indomethacin</i> <i>D Diclofenac sodium</i> <i>E Piroxicam</i>	Celecoxib is a selective COX-2 inhibitor with a lower risk of ulcerogenic action than other drugs. Therefore, its use in this case is appropriate.
20.	Hyperglycemia is found in a patient who has been treated for a long time for rheumatoid arthritis. Which of the drugs could cause it?	<i>A * Dexamethasone</i> <i>B Diclofenac sodium</i> <i>C Ibuprofen</i> <i>D Delagil</i> <i>E Levamisole</i>	Dexamethasone (systemic glucocorticoid) is a disordered carbohydrate metabolism listed in the answers and may cause hyperglycemia and further steroid diabetes.
21.	A 33-year-old woman who has been treated for chronic polyarthritis for a long time complains of hypertension, changes in the distribution of adipose tissue, and disorders of the menstrual cycle. What drug does the patient take?	<i>A * Prednisolone</i> <i>B Indomethacin</i> <i>C Butadion</i> <i>D Sinaflan</i> <i>E Diclofenac Sodium</i>	These side effects are characteristic of the use of systemic glucocorticoids (prednisolone).
22.	Patient 55 years of age on day 4 of diclofenac sodium treatment had gastric bleeding as a result of gastric ulcer. What is the mechanism of ulcerative effect of the drug?	<i>A * Decreased prostaglandin E2 formation</i> <i>B Reduced leukotriene formation</i> <i>C Phosphodiesterase enzyme blocking</i> <i>D Reduced red blood cell production</i> <i>E Reduced leukocyte formation</i>	Diclofenac sodium and other non-selective non-steroidal anti-inflammatory drugs cause erosion and gastric ulcer formation by reducing COX-1 activity and synthesis of gastroprotective prostaglandin E2.
23.	The doctor prescribed a patient with rheumatoid arthritis, the use of which the following side effects are possible: the development of "steroid diabetes", edema, osteoporosis, arterial hypertension. Name this drug:	<i>A * Prednisolone</i> <i>B Dichlorothiazide</i> <i>C Mezaton</i> <i>D Butation</i> <i>E Strophanthin</i>	These side effects are characteristic of the use of systemic glucocorticoids (prednisolone).
24.	A 48-year-old patient was administered intravenously a solution of prednisolone to relieve a severe onset of bronchial asthma. Which group of hormones does	<i>A * Glucocorticoids</i> <i>B Gestagenic preparations</i>	Prednisolone is attributed to systemic glucocorticoids. This is

	prednisolone belong to?	<i>C</i> <b>Cestrogens</b> <i>D</i> <b>Mineralocorticoids</b> <i>E</i> <b>Anabolic Steroids</b>	appropriate for the task.
25.	A 57-year-old patient was diagnosed with rheumatoid arthritis, with a history of peptic ulcer disease. What medication from the NSAIDs group can be recommended for this patient?	<i>A</i> * <b>Celecoxib</b> <i>B</i> <b>Diclofenac</b> <i>C</i> <b>Aspirin</b> <i>D</i> <b>Indomethacin</b> <i>E</i> <b>Mephenic acid</b>	Celecoxib, unlike other agents, is a selective inhibitor of COX-2, which involves reducing the number and quality of side effects, in this case, ulcerogenic. Therefore, the choice is possible and reasonable.
26.	Side effects in the form of Ray syndrome (encephalopathy, liver damage in the form of fatty dystrophy) occurs in children on the background of fever viral origin when taking this drug:	<i>A</i> * <b>Acetylsalicylic acid</b> <i>B</i> <b>Celecoxib</b> <i>C</i> <b>Ibuprofen</b> <i>D</i> <b>Metamizole sodium</b> <i>E</i> <b>Paracetamol</b>	From non-steroidal anti-inflammatory drugs, acetylsalicylic acid is capable of provoking the occurrence of Ray's syndrome, so it is not used as an antipyretic agent in childhood.
27.	In a child of 3 years, intolerance of paracetamol. What antipyretic drug should be used?	<i>A</i> * <b>Ibuprofen</b> <i>B</i> <b>Acetylsalicylic acid</b> <i>C</i> <b>Nimesulid</b> <i>D</i> <b>Diclofenac sodium</b> <i>E</i> <b>Naproxen</b>	Ibuprofen is the safest in childhood and can be used instead of paracetamol.

#### TOPIC 6. Principles of drug poisoning treatment

<b>№</b>	<b>Test of booklets "Step-2"</b>	<b>Distractors (A-E)</b>	<b>Explanation</b>
1	A patient of 25 years received antibiotics during 7 days, which was complicated by the development of intestinal dysbiosis. Which drug group should you use to treat this complication?	<i>A</i> * <b>Probiotics</b> <i>B</i> <b>Antispasmodics</b> <i>C</i> <b>Choleretics</b> <i>D</i> <b>Antacids</b> <i>E</i> <b>Adaptogens</b>	Intestinal dysbiosis is characterized by changes in the composition of the microflora. Therefore, for its prevention and treatment use means containing intestinal microorganisms (probiotics), or create the conditions for its life (prebiotics).
2.	A 59-year-old man has been using furosemide for a long time to treat heart failure. What medication for the prevention of hypokalemia should be used in this case?	<i>A</i> * <b>Panangin</b> <i>B</i> <b>Tiotriazoline</b> <i>C</i> <b>Acetylsalicylic acid</b> <i>D</i> <b>Trimetazidine</b> <i>E</i> <b>Enalapril</b>	Furosemide is a loop diuretic that lowers serum potassium and magnesium levels. To prevent this side effect, use potassium and magnesium (eg, panangin, asparkam).
3.	In patients with varicose veins of the lower extremities there are signs of an overdose of heparin. Which drug should you use as an antidote?	<i>A</i> * <b>Protamine sulfate</b> <i>B</i> <b>Ascorbic acid</b> <i>C</i> <b>Dipyridamole</b> <i>D</i> <b>Pentoxifylline</b> <i>E</i> <b>Acetylsalicylic acid</b>	Protamine is the antagonist of direct anticoagulants (heparin), which is why it is used as an antidote to overdose with the latter.
4.	What drug is a specific antidote for poisoning with iron?	<i>A</i> * <b>Deferoxamine</b> <i>B</i> <b>Protamine sulphate</b>	Deferoxamine is an antagonist against iron

		<i>C Bemegrid</i> <i>D Atropine sulfate</i> <i>E Penicillamine</i>	preparations, so it is used as an antidote.
5.	During the treatment of chronic heart failure with digoxin, the patient experienced bradycardia, nausea, vomiting, and impaired vision. Which drug is the antidote in this case?	<i>A * Unityol</i> <i>B Tetacin-calcium</i> <i>C Dipiroxam</i> <i>D Amilnitrit</i> <i>E Atropine sulfate</i>	These symptoms are signs of an overdose of digoxin. The specific antidote is the use of unithiol.
6.	What medication is prescribed for iron overdose?	<i>A * Deferoxamine</i> <i>B Vikasol</i> <i>C Etamzilate</i> <i>D Naloxone</i> <i>E Atropine sulfate</i>	Dysferal or Deferoxamine is a specific antidote for iron overdose.
7.	A patient of 25 years received antibiotic therapy within 7 days, which was complicated by the development of intestinal dysbiosis. Which of the following drug groups should be used to treat this complication?	<i>A * Probiotics</i> <i>B Antispasmodics</i> <i>C Choleric</i> <i>D Antacids</i> <i>E Adaptogens</i>	Probiotics are used to prevent dysbiosis during antibiotic therapy.
8.	What drug is shown for overdosage of depolarizing type of muscle relaxants?	<i>A * Proserine</i> <i>B Metoprolol</i> <i>C Naloxone</i> <i>D Magnesium sulfate</i> <i>E Unithiol</i>	The anticholinesterase drug proserin is a specific antidote for muscle relaxant intoxication, which is appropriate for the task.
9.	If symptoms of paracetamol intoxication occur, the following should be used as an antidote:	<i>A * Acetylcysteine</i> <i>B Glucose</i> <i>C Sodium chloride</i> <i>D Furosemide</i> <i>E Reopolyglukin</i>	Acetylcysteine is an antidote for paracetamol overdose. This is appropriate for the task.
10.	Sick of 20 years. After the bite of the wasp, Quinke's edema developed, a rash appeared in the trunk in the form of blisters, papules. First aid should be started with the drug:	<i>A * Prednisolone</i> <i>B Penicillin</i> <i>C Fresh frozen plasma</i> <i>D Reopolyglukin</i> <i>E Hemodesis</i>	Systemic glucocorticosteroids (prednisolone) are used first and foremost in the urgent care phase for acute allergic reactions.
11.	Which of the following drugs should be included as an antidote to a first aid kit in an enterprise where acute poisoning with arsenic, mercury, chromium, and bismuth compounds is possible?	<i>A * Unithiol</i> <i>B Adrenalin</i> <i>C Atropine sulfate</i> <i>D Morphine</i> <i>E Droperidol</i>	Unithiol is a specific antidote for heavy metal salt poisoning. This is appropriate for the task.
12.	Name the drug of first choice for overdose with narcotic analgesics:	<i>A * Naloxone</i> <i>B Sodium caffeine benzoate</i> <i>C Diazepam</i> <i>D Unityol</i> <i>E Calcium chloride</i>	Naloxone is an antidote for overdose with narcotic analgesics. This is appropriate for the task.
13.	The patient was delivered to the hospital with complaints of shortness of breath, salivation, spastic abdominal pain, diarrhea, dizziness, decreased visual acuity. The following diagnosis was made: organophosphorus poisoning. What drugs should be included in pathogenetic therapy?	<i>A * Atropine sulfate and dipiroxime</i> <i>B Sodium thiosulphate and bemegride</i> <i>C Tetacin-calcium and unithiol</i> <i>D Nalorphine hydrochloride and bemegrid</i> <i>E Glucose and bemegrid</i>	Atropine and dipiroxime are specific antidotes for FOS intoxication.
14.	Tubocurarine chloride muscle relaxant was used during surgery. Which antagonist should be administered to the patient to regain his or her self-breathing?	<i>A * Proserine</i> <i>B Ditiline</i> <i>C Cititon</i> <i>D Etimizol</i> <i>E Benzohexonium</i>	Anticholinesterase agent Proserine is a specific antidote for overdose with muscle relaxants.

15.	Which of the following drug can be used by a physician to stop bleeding caused by prolonged use of neodicoumarin as an antagonist?	<i>A * Vikasol</i> <i>B Aminocaproic acid</i> <i>C Etamzilate</i> <i>D Fibrinogen</i> <i>E Ascorbic acid</i>	Vikasol is a typical antidote for overdose with indirect anticoagulants (neodicoumarin).
16.	A patient with symptoms of mercury poisoning was admitted to the admission ward. What antidote is shown in this case?	<i>A * Unityol</i> <i>B Atropine sulfate</i> <i>C Proserin</i> <i>D Naloxone</i> <i>E Calcium chloride</i>	Unithiol is a specific antidote for mercury intoxication and other heavy metal salts.
17.	After another injection of insulin in a patient with diabetes mellitus, his condition worsened: anxiety, cold sweat, limb tremor, general weakness. Choose an emergency help:	<i>A * Glucose</i> <i>B Hydrocortisone</i> <i>C Butamid</i> <i>D Noradrenaline</i> <i>E Glibutide</i>	Perhaps in this case there were phenomena of hypoglycemia due to the fact that the patient did not eat after insulin administration. For the treatment of this condition, use a glucose solution dosage.
18.	Choose among the medicines that came to the pharmacy those poisoned with the use of unithiol as an antidote:	<i>A * Cardiac glycosides</i> <i>B Aminoglycosides</i> <i>C Atropine sulfate</i> <i>D Salbutamol</i> <i>E Glibenclamide</i>	Unithiol is a specific antidote for cardiac glycoside poisoning due to the presence of thiol groups of transport ATP-ase and the restoration of their activity.
19.	A 45-year-old patient receiving neodymicumarine for thrombophlebitis for two weeks showed a decrease in prothrombin content in the blood, and microhematuria in the urine. Which medication should be used as a neodymicarin antagonist?	<i>A * Vicasol</i> <i>B Protamine sulphate</i> <i>C Sodium citrate</i> <i>D Heparin</i> <i>E Aminocaproic acid</i>	Vicasol is a typical antidote for overdose with indirect anticoagulants (neodicoumarin).
20.	A patient with complaints of dry mouth, photophobia and visual impairment was delivered to the reception ward. Objectively: skin is hyperexcited, dry, pupils dilated, tachycardia. The diagnosis was made: Belladonna alkaloid poisoning. Which medication should I use as an antidote?	<i>A * Proserine</i> <i>B Aceclidine</i> <i>C Pilocarpine</i> <i>D Armin</i> <i>E Dipiroxime</i>	Prozerin as an anticholinesterase agent is an antagonist of the action of atropine - the main alkaloid of belladonna.
21.	The patient has acute morphine poisoning. Which drug should be administered as an antidote?	<i>A * Naloxone</i> <i>B Lobelin hydrochloride</i> <i>C Bemegrid</i> <i>D Atropine sulfate</i> <i>E Unithiol</i>	A specific antagonist of the action of narcotic analgesics (morphine) is naloxone or nolorphine. This is appropriate for the task.
22.	The child accidentally drank from the vial the solution her grandmother used to treat glaucoma. It turned out that it was pilocarpine hydrochloride. What medication can be used as an antidote?	<i>A * Atropine sulfate</i> <i>B Carbacholine</i> <i>C Aceclidine</i> <i>D Benzohexonium</i> <i>E Pentamine</i>	Pilocarpine is an M-cholinomimetic, so its specific antagonist is atropine, an M-cholin blocker.
23.	Women of 25 years with the phenomena of acute intoxication with morphine were administered naloxone, which caused a rapid improvement in her condition. The mechanism of action of this drug is to block the following receptors:	<i>A * Opioid</i> <i>B GABA receptors</i> <i>C Serotonin</i> <i>D Dopamine</i> <i>E Benzodiazepines</i>	Morphine stimulates the opioid receptors of the CNS, antidotes (naloxone, nolorphine) block. This is appropriate for the task.
24.	During the treatment of chronic heart failure with digitoxin, the patient showed signs of intoxication with this drug. The doctor prescribed unitisol. Explain what is the mechanism of action of unitisol in this case?	<i>A * Restores K<sup>+</sup>-N a<sup>+</sup>-ATPase activity</i> <i>B Binding of calcium ions</i>	Unithiol is a donor of thiol groups of transmembrane enzymes and thus

		<p><b>C Increase of sodium level in cardiomyocytes</b>  <b>D Promote permeability for potassium in cardiomyocytes</b>  <b>E Binding glycoside to a complex compound</b></p>	restores ATP-az activity. This is appropriate for the task.
25.	A child with signs of Belladonna alkaloid poisoning was delivered to the hospital. Which drug should be used as an antidote?	<p><b>A * Proserine</b>  <b>B Magnesium sulfate</b>  <b>C Sodium caffeine benzoate</b>  <b>D Paracetamol</b>  <b>E Sodium valproate</b></p>	Prozerin as an anticholinesterase agent is an antagonist of atropine, the major alkaline of belladonna.
26.	When performing a benzylpenicillin sensitivity test, the patient developed anaphylactic shock. What drug should be injected at the site of antibiotic administration?	<p><b>A * Adrenaline hydrochloride</b>  <b>B Norepinephrine hydrotartrate</b>  <b>C Atropine sulfate</b>  <b>D Propranolol</b>  <b>E Ceftriaxone</b></p>	Adrenaline causes local vasoconstriction and thus slows the absorption of antibiotics from the sample site.
27.	After massive blood loss during surgery, the patient developed acute fibrinolysis. Name the drug from the group of blood clotting agents shown in this case:	<p><b>A * Aminocaproic acid</b>  <b>B Vicasol</b>  <b>C Thrombin</b>  <b>D Fibrinogen</b>  <b>E Ascorbic acid</b></p>	Aminocaproic acid as a hemostatic, is an inhibitor of fibrinolysis, so in this case it is indicated for administration.
28.	The patient with lower extremity thrombophlebitis showed signs of heparin overdose. This situation shows the introduction of:	<p><b>A * Protamine sulfate</b>  <b>B Phenilin</b>  <b>C Vikasol</b>  <b>D Pentoxifylline</b>  <b>E Dipyridamole</b></p>	Protamine is a specific antagonist of direct anticoagulants (heparin), so it is used as an antidote.
29.	Cholinesterase blocking by organophosphorus pesticides is carried out in two stages. In the second stage, the chemical interaction of FOS with the enzyme, ie phosphorylation of cholinesterase, takes place. In this case, it is necessary to conduct antidote therapy with cholinesterase reactivators, namely:	<p><b>A * Dipiroxime and isonitrosine</b>  <b>B Levomycetin</b>  <b>C Amyl nitrate and sodium nitrite</b>  <b>D Naklofen</b>  <b>E Dubinol</b></p>	Dipiroxime and isonitrosine are cholinesterase reactivators, which is why they are used in FOS poisoning.
30.	The patient was admitted to the receiving ward in a coma. Blood sugar level is 25 mmol/l. What medication is the emergency medicine of choice?	<p><b>A * Insulin</b>  <b>B Humulin ultralent</b>  <b>C 40% glucose solution</b>  <b>D Ringer's solution</b>  <b>E 10% glucose solution</b></p>	Possible cause of coma in this case is hyperglycemia, so short-acting insulin is used to quickly restore the patient's condition. Humulie ultralente is a long-acting insulin, not used in this case.
31.	Atropine sulfate was used in the poisoning of organophosphorus compounds. What phenomenon underlies the antidote action?	<p><b>A * Antagonism</b>  <b>B Synergism</b>  <b>C Addictive</b>  <b>D Chemical compatibility</b>  <b>E Potentiation</b></p>	FOC bind cholinesterase, which destroys acetylcholine, which is accompanied by increased activity. Atropine is an M-cholin blocker and thus blocks the action of acetylcholine and can be used as an antagonist for FOS intoxication.
32.	The patient of 74th years for a long time uses for treatment of heart failure digoxin. There were complaints of nausea, vomiting, diarrhea, impaired	<p><b>A * Unithiol</b>  <b>B Calcium chloride</b>  <b>C Protamine sulfate</b></p>	Unithiol is a specific donor of thiol groups of transmembrane

	vision. The doctor thought about possible intoxication with the drug. Which antidote should you recommend for appointment?	<b>D Prozerin</b> <b>E Atropine sulfate</b>	ATP-az and is used in cardiac glycoside poisoning (digoxin).
33.	The patient with mercury poisoning was delivered to the toxicological department. Which drug should be considered as an antidote in this situation?	<b>A * Unithiol</b> <b>B Bisnitrosine</b> <b>C Naloxone</b> <b>D Activated Carbon</b> <b>E Enterosorbent SKN</b>	Unithiol is a specific donor of thiol groups of transmembrane ATP-az and is used in heavy metal salts poisoning.
34.	Patient with acute myocardial infarction in the combine therapy received drug - anticoagulant. After a while, hematuria appeared. To eliminate this complication, protamine sulfate was administered. What anticoagulant did the patient receive?	<b>A * Heparin</b> <b>B Aminocaproic acid</b> <b>C Thrombin</b> <b>D Fibrinogen</b> <b>E Vicasol</b>	Protamine sulfate is used as an antidote for overdose by direct anticoagulants to which heparin belongs.
35.	In a patient with chronic heart failure, on the background of cardiac glycosides, there were signs of glycosidic intoxication. Which antidote is appropriate?	<b>A * Unithiol</b> <b>B Vicasol</b> <b>C Methionine</b> <b>D Protamine</b> <b>E Naloxone</b>	Unithiol is a donor of thiol groups of ATP-az transport, which allows it to be used as an antagonist and antidote for cardiac glycoside intoxication.
36.	What drug is indicated in case of overdosing on neodicumarin or other indirect anticoagulants?	<b>A*Vicasolum</b> <b>(Menadione)</b> <b>BEnoxaparin</b> <b>CStreptokinase</b> <b>DNaloxone</b> <b>EIron gluconate</b>	A specific antidote to indirect anticoagulants is vitamin K (vicasolum).
37.	What medicine is simultaneously a mucolytic and an antidote against a paracetamol overdose?	<b>A*Acetylcysteine</b> <b>BTrypsin</b> <b>CAmbroxol</b> <b>DBromhexine</b> <b>ECarbocysteine</b>	It is known that acetylcysteine is a mucolytic, and at the same time it has been proven to have an antagonistic effect on paracetamol hepatotoxicity.

#### TOPIC 7. Clinical and pharmaceutical features of the use of antibacterial drugs

№	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	Which of these antibacterial drugs is NON-RATIONAL to administer to a patient of 56 years with type II diabetes receiving glibenclamide?	<b>A * Biseptol</b> <b>B Medecamycin</b> <b>C Gentamicin</b> <b>DBenzylpenicillin</b> <b>E Doxycycline</b>	Glibenclamide as a dehydrating agent is a derivative of sulfonyleurea. It is not rational to combine it with other sulphonylamide agents, in this case it is biseptol.
2	Which of these drug groups has a "seasonal" life-cycle?	<b>A * Antivirus</b> <b>B Anticoagulants</b> <b>C Antidiabetic</b> <b>D Anabolic</b> <b>E Antituberculosis</b>	The seasonal cycle is inherent in antiviral agents because they are used in diseases characterized by seasonality.
3	A person who has been suffering from chronic hepatitis for a long time has been diagnosed with pneumonia. Which of the antibacterials can be used in this clinical situation?	<b>A * Amoxicillin</b> <b>B Tetracycline</b> <b>C Biseptol</b> <b>D Rifampicin</b> <b>E Vancomycin</b>	Amoxicillin and other aminopenicillins, unlike the other listed agents, do not have hepatotoxicity, so their use in this case is

			possible.
4	A 30-year-old patient with a diagnosis of acute osteomyelitis was prescribed an antibiotic that penetrates well into the bone tissue. Which one was chosen?	<b>A * Lincomycin</b> <b>B Bicillin-3</b> <b>C Benzylpenicillin</b> <b>D Polymyxin-M</b> <b>E Ampicillin</b>	Lincomycin and other lincosamides penetrate well into the bone, so they are a backup drug for osteomyelitis.
5	Pregnant woman suffering from severe pneumonia. Which of these antibacterials drugs is it advisable to prescribe?	<b>A * Cefotaxime</b> <b>B Gentamicin sulfate</b> <b>C Tetracycline hydrochloride</b> <b>D Ofloxacin</b> <b>E Biseptol</b>	Cefotaxime and other cephalosporins do not adversely affect the embryo and the fetus and can therefore be used to treat pneumonia in pregnant women.
6	During the release of doxycycline, the doctor advised the patient to refrain from consuming dairy products. The pharmacist made the following recommendation as far as dairy products are concerned:	<b>A * Suppress antibiotic absorption</b> <b>B The antibiotic toxicity is increased</b> <b>C Increase the risk of dysbiosis</b> <b>D Worsens the digestive process of food</b> <b>E They are NOT absorbed when taking an antibiotic</b>	Foods that contain calcium (dairy) reduce the absorption of doxycycline.
7	In a 27-year-old patient, an allergic reaction developed with aminopenicillin treatment with angina. Which group should use an antibiotic to treat this patient to reduce the likelihood of an allergic reaction?	<b>A * Macrolides</b> <b>B Semi-synthetic penicillins</b> <b>C Cephalosporins</b> <b>D Karbapenemes</b> <b>E Protected Aminopenicillins</b>	Only macrolides have a different structure than the antibacterial agents listed. Cross-allergy between all beta-lactam antibiotics is described.
8	Acute streptococcal pneumonia blamed on pregnant woman. Which of these antibacterials can be prescribed during pregnancy?	<b>A * Benzylpenicillin sodium salt</b> <b>B Gentamicin</b> <b>C Streptomycin</b> <b>D Tetracycline</b> <b>E Ciprofloxacin</b>	Benzylpenicillin does not adversely affect the embryo and the fetus, so it can be used to treat pneumonia in pregnant women caused by streptococcus.
9	Name a drug from the tetracycline group that has been prescribed for a patient for bronchitis:	<b>A * Doxycycline hydrochloride</b> <b>B Benzylpenicillin sodium salt</b> <b>C Acyclovir</b> <b>D Isoniazide</b> <b>E Hingamin</b>	Only doxycycline is a synthetic derivative of tetracyclines from the above drugs; it also collects well in the lung tissue.
10	Which antibiotic is the drug of choice for treating syphilis?	<b>A * Benzylpenicillin sodium salt</b> <b>B Linkomycin hydrochloride</b> <b>C Levorin</b> <b>D Streptomycin sulfate</b> <b>E Polymyxin M sulfate</b>	Natural penicillins (benzylpenicillin) are effective against the causative agent of syphilis (treponema) and are therefore used to treat it. Other drugs are not suitable.
11	What preparation of synthetic origin of the hydrazide group is prescribed for pulmonary tuberculosis?	<b>A * Isoniazid</b> <b>B Rifampicin</b> <b>C Acyclovir</b> <b>D Metronidazole</b> <b>E Doxycycline hydrochloride</b>	Isoniazid meets the conditions of the problem because it is a derivative of hydrazides. Other drugs do not meet these conditions.
12	Pregnant woman (12 weeks) hospitalized with	<b>A * Amoxicillin</b>	Amoxicillin also acts

	symptoms of acute cystitis. Which of these antibiotics can be recommended in this case?	<b>B Ciprofloxacin</b> <b>C Gentamicin</b> <b>D Metronidazole</b> <b>E Tetracycline</b>	on the possible pathogens of cystitis and does not cause a negative effect on the fetus. Other drugs are contraindicated in pregnancy.
13	Pregnant woman has pneumonia; pregnancy term is 20 weeks. What chemotherapy drug can a doctor prescribe for prescribing patients without the risk of fetal development?	<b>A * Benzylpenicillin</b> <b>B Gentamicin</b> <b>C Sulfalene</b> <b>D Levomycetin</b> <b>E Ofloxacin</b>	Benzylpenicillin does not adversely affect the embryo and the fetus, so it can be used to treat pneumonia in pregnant women.
14	Which of the following diseases is correct in the treatment of benzathine benzylpenicillin?	<b>A * Syphilis</b> <b>B Intestinal infection</b> <b>C Pneumonia</b> <b>D Angina</b> <b>E Furunculosis</b>	Only the standard of treatment for syphilis includes prolonged forms of natural penicillins (bicillins).
15	The patient in the first trimester of pregnancy was diagnosed with acute pyelonephritis. Which antibiotic is the drug of choice for the treatment of this patient?	<b>A * Amoxicillin</b> <b>B Norfloxacin</b> <b>C Gentamicin</b> <b>D Chloramphenicol</b> <b>E Amikacin</b>	Amoxicillin also acts as a possible causative agent of pyelonephritis and does not cause negative effects on the fruit. Other drugs are contraindicated in pregnancy.
16	For the treatment of urinary tract infection, a doctor assigned a patient from a group of nitrofurans - nitrofurazone to the patient. The doctor made a mistake because the drug:	<b>A * Not absorbed from the digestive canal</b> <b>B It is excreted in the urine when inactive</b> <b>C Has a nephrotoxic effect</b> <b>D Has bacteriostatic effect</b> <b>E Is excreted in the body</b>	Nitrofurazone is a nitrofurantoin that is poorly absorbed in the gastrointestinal tract, so it is only used to treat intestinal infections. This determines the error of the intern.
17	Patients of 20 years were prescribed bicillin prophylaxis of rheumatism. Specify the frequency of administration of bicillin-5:	<b>A * Once every 3 weeks</b> <b>B 1 once a week</b> <b>C 1 every 3 days</b> <b>D 1 per year</b> <b>E Once a day</b>	Bicillin-5 is a prolonged form of natural penicillins characterized by such a regimen.
18	A 35-year-old woman went to the pharmacy to buy a drug to prevent flu. Which of these drugs can you recommend?	<b>A * Remantadine</b> <b>B Acyclovir</b> <b>C Ribavirin</b> <b>D Ganciclovir</b> <b>E Lamivudine</b>	Remantadine and other amantadines are used to prevent flu. Other drugs are used to treat viral infections.
19	The drug of choice for the treatment of acute pyelonephritis in a pregnant woman in the first trimester is:	<b>A * Amoxicillin</b> <b>B Norfloxacin</b> <b>C Biseptol</b> <b>D Gentamicin</b> <b>E Chloramphenicol</b>	Amoxicillin also acts as a possible causative agent of pyelonephritis and does not cause negative effects on the fruit. Other drugs are contraindicated in pregnancy.
20	From the proposed chemotherapeutic agents, choose a drug for the treatment of a patient suffering from simple herpes:	<b>A * Acyclovir</b> <b>B Rifampicin</b> <b>C Doxycycline hydrochloride</b> <b>D Hingamin</b> <b>E Metronidazole</b>	Acyclovir is an antiviral drug and is used in this case. Other drugs do not have antiviral activity.
21	Choose the optimal antibacterial drug for the treatment of mycoplasma pneumoniae:	<b>A * Rovamycin</b> <b>B Gentamicin</b> <b>C Penicillin</b> <b>D Ampicillin</b>	Mycoplasma refers to atypical intracellular microorganisms. Macrolides (including



		<i>E Amoxiclav</i>	rovamycin) are known to be most effective in this case.
22	In a patient of 26 years diagnosed with pneumonia caused by mycoplasma. Choose the required antimicrobial drug to treat the patient:	<i>A * Rovamycin B Amoxicillin C Benzylpenicillin E Amoxiclav</i>	Mycoplasma refers to atypical intracellular microorganisms. Macrolides (including rovamycin) are known to be most effective in this case.
23	Benzylpenicillin sodium salt is NOT administered orally as this drug:	<i>A * HCl of the stomach is destroyed B Badly absorbed in the intestine C Irritates the gastric mucosa D Reduces the formation of HCl of the stomach E It is destroyed by penicillinase</i>	Natural penicillins are destroyed in acidic gastric environment, so they are not used orally.
24	The pharmacy for implementation received the sulfanilamide drug bisseptol. What chemical compounds are the main constituents of this drug?	<i>A * Sulfamethoxazole, trimethoprim B Sulfazine, salazodimethoxin C Sulgin, norsulfazole D Ftalazole, sulfadimesine E Urosulfan, sulfapyridazine</i>	Bisepitol (co-trimoxazole) is a combined sulfanilamide, which includes these components. This is appropriate for the task.
25	Ftalazole was administered to a patient in the infection department for dysentery. How to explain that phthalazole is used only for the treatment of intestinal infections?	<i>A * The drug is not absorbed by the gastrointestinal tract B High degree of reabsorption in the kidneys C Formally excreted from the body D Quickly absorbed in the gastrointestinal tract E Fastly displayed unchanged</i>	Ftalazole is a sulphonylamide drug that is poorly absorbed in the gastrointestinal tract and is therefore intended for the treatment of intestinal infections.
26	In a 52-year-old man, systemic amoebiasis was diagnosed with bowel, liver, and lung damage. What drug should be prescribed?	<i>A * Metronidazole B Prednisolone C Tetracycline D Hingamin E Ftalazole</i>	Nitroimidazoles, which also include metronidazole, have an antiprotozoal spectrum of activity that allows it to be used in this case.
27	Consult a nurse who is just starting out in a professional activity that is NOT typical for sodium benzylpenicillin:	<i>A * Oral B Intravenous C Intramuscular D Spinal canal E In the external auditory canal</i>	Natural penicillins (benzylpenicillin) are destroyed in the acid content of the stomach, so they are not used internally.
28	A patient of 36 years found atypical pneumonia, which was caused by chlamydia infection. Which antibacterial agent should be recommended in this case?	<i>A * Roxithromycin B Ampicillin C Penicillin D Cefuroxime E Vancomycin</i>	Chlamydia (atypical microorganisms) are sensitive to macrolides. Roxythromycin is a representative of this group of antibiotics, it meets the requirements

			of the task.
29	The patient has cold sores after hypothermia on the lower lip. What drug can you recommend?	<i>A * Acyclovir</i> <i>B Itraconazole</i> <i>C Amoxicillin</i> <i>D Prednisolone</i> <i>E Azidothymidine</i>	Of the above drugs, only acyclovir is effective in herpes simplex in the answers. This is appropriate for the task.
30	During the dispensation in the pharmacy of antibacterial drugs for the treatment of community-acquired pneumonia, give additional recommendations to the patient regarding the prevention of possible intestinal dysbiosis in him:	<i>A * Linex</i> <i>B Tavegil</i> <i>C Ambroxol</i> <i>D Carsil</i> <i>E Cotrimoxazole</i>	Intestinal dysbiosis on the background of antibacterial therapy should be prevented by either the appointment of probiotics or prebiotics (linex).
31.	A patient of 25 years received antibiotic therapy within 7 days, which was complicated by the development of intestinal dysbiosis. Which of the following drug groups should be used to treat this complication?	<i>A * Probiotics</i> <i>B Antispasmodics</i> <i>C Constipation</i> <i>D'Antacids</i> <i>E Adaptogens</i>	Probiotics are used to prevent dysbiosis during antibiotic therapy.
32.	A woman complained to the pharmacy to complain of a change in the color of her urine to red. What anti-tuberculosis drug caused this change?	<i>A * Rifampicin</i> <i>B Isoniazide</i> <i>C Streptomycin</i> <i>D Doxycycline hydrochloride</i> <i>E Hingamin</i>	Rifampicin has a red-orange color to the substance, so it is able to color the urine by releasing it from the body.
33.	A 32-year-old patient takes anti-TB drugs. After a while he noticed that the urine had turned red-orange. Which drug is the cause of this?	<i>A * Rifampicin</i> <i>B Isoniazide</i> <i>C Preparation</i> <i>D Ethambutol</i> <i>E Streptomycin sulfate</i>	Rifampicin has a red-orange color to the substance, so it is able to color the urine by releasing it from the body.
34.	Newborn's "gray syndrome" (temperature drop below normal, acidosis, respiratory disorders, gray skin color, collapse) develops with antibiotic use:	<i>A * Levomycetin</i> <i>B Tetracycline</i> <i>C Gentamicin</i> <i>D Ciprofloxacin</i> <i>E Erythromycin</i>	These side effects are characteristic of the use of levomycetin. This is appropriate for the task.
35.	A pregnant woman has pneumonia with a severe course. Which of these antibacterial drugs is appropriate for her?	<i>A * Cefotaxime</i> <i>B Gentamicin sulfate</i> <i>C Tetracycline hydrochloride</i> <i>D Ofloxacin</i> <i>E Biseptol</i>	Cefotaxime and other cephalosporins do not adversely affect the embryo and the fetus and can therefore be used to treat pneumonia in pregnant women.
36.	A patient of 18 years was diagnosed with disseminated pulmonary tuberculosis. What medication is needed for etiotropic pharmacotherapy?	<i>A * Isoniazid</i> <i>B Benzylpenicillin sodium salt</i> <i>C Trimetoprim</i> <i>D Linkomycin</i> <i>E Metronidazole</i>	Of the above drugs, only isoniazid can be used for etiotropic tuberculosis therapy.
37.	A child of 4 years was prescribed antibacterial drug for the treatment of angina. A week after the treatment, the child complained of tinnitus, hearing loss. What antibiotic could have caused such a side effect?	<i>A * Gentamicin</i> <i>B Metronidazole</i> <i>C Penicillin</i> <i>D Azithromycin</i> <i>E Ceftriaxone</i>	Gentamicin belongs to the group of antibiotics-aminoglycosides, which have a side ototoxic effect.
38.	A 74-year-old man was contacted by a pharmacist for ampicillin antibiotic therapy for dysentery gastroenterocolitis. Choose a group of drugs to prevent dysbiosis?	<i>A * Probiotics</i> <i>B Enzyme agents</i> <i>C Antacids</i> <i>D Immunosuppressants</i> <i>E Sorbents</i>	Probiotics are used for the prevention of intestinal dysbiosis against antibiotic therapy.
39.	A 36-year-old woman has been assigned a nitrofurantoin	<i>A * Nifuroxazide</i>	Nifuroxazide meets the

	derivative, which is poorly absorbed in the intestine and has an effect on the intestine, to treat intestinal infection. Define the drugs:	<b>B Furadonin</b> <b>C Nitroxoline</b> <b>D Nalidixic acid</b> <b>E Furacillin</b>	conditions of the task because it has the specified pharmacokinetic features.
40.	Which of the following drugs is the drug of choice for treating acute pyelonephritis in pregnant women?	<b>A * Ampicillin</b> <b>B Tetracycline</b> <b>C Streptomycin</b> <b>D Levomycetin</b> <b>E Gentamycin</b>	Ampicillin also acts on the possible pathogens of pyelonephritis and does not cause a negative effect on the fetus. Other drugs are contraindicated in pregnancy.
41.	In a patient of 27 years diagnosed with out-of-hospital pneumonia. Previously, the patient had an allergic reaction to ampicillin. What antibacterial agent is appropriate for her?	<b>A * Azithromycin</b> <b>B Ceftriaxone</b> <b>C Cephobid</b> <b>D'Efazolin</b> <b>E Penicillin</b>	The azithromycin alone of the above agents is not beta-lactam in structure, which may be cross-allergic in this case. Therefore, azithromycin is intended.
42.	For the etiotropic treatment of focal pneumonia in a patient of 63 years with concomitant diabetic nephropathy with impaired renal function contraindication:	<b>A * Aminoglycosides</b> <b>B Protected Penicillins</b> <b>C Macrolides</b> <b>D Synthetic penicillins</b> <b>E Natural Penicillins</b>	Aminoglycosides are potential nephrotoxic agents, so contraindications are contraindicated in the presence of chronic renal failure.
43.	A hospital with an open form of tuberculosis is undergoing in-patient treatment at the TB dispensary. What remedy did the doctor prescribe for etiotropic treatment?	<b>A * Isoniazid</b> <b>B Acyclovir</b> <b>C Metronidazole</b> <b>D'Benzylpenicillin</b> <b>E Doxycycline</b>	Of the above agents, only isoniazid has anti-tuberculosis activity.
44.	In a patient of 25 years the diagnosis "Acute pyelonephritis, moderate." Which group of drugs should be assigned to the patient as a means of etiotropic therapy?	<b>A * Antimicrobial drugs</b> <b>B Glucocorticoids</b> <b>C Anticholinesterase drugs</b> <b>D Nonsteroidal anti-inflammatory drugs</b> <b>E Antiarrhythmic drugs</b>	Acute pyelonephritis is an acute infectious-inflammatory kidney disease that requires the use of antimicrobials for etiotropic treatment.
45.	After removal of a maxillary cyst, the dentist prescribed the patient an oral antibiotic to prevent postoperative bacterial complications. This antibiotic penetrates well into the bone tissue. Name this drug.	<b>A*Lincomycin</b> <b>BAmoxicillin</b> <b>Nifuroxazide</b> <b>DStreptomycin</b> <b>EClarithromycin</b>	Lincomycin and other antibiotics of the lincosamide group (dalacin C) penetrate bones well and are the drugs of choice in this case.
46.	A 17-year-old boy fell ill with an acute intestinal infection. Select from the list an antibacterial drug that is not absorbed in the intestine.	<b>A*Nifuroxazide</b> <b>B Co-trimoxazole</b> <b>C Phthalazol</b> <b>D Sulfadimethoxine</b> <b>E Sulfacyl sodium</b>	Nifuroxazide and phthalazol are poorly absorbed in the intestine. But, given the patient's age (17 years), in this case nifuroxazide is indicated.

**TOPIC 8. Side effects of drugs**

<b>№</b>	<b>Test of booklets "Step-2"</b>	<b>Distractors (A-E)</b>	<b>Explanation</b>
1	Patient 60 years after undergoing surgery is on a bed rest. After prolonged therapy with buckthorn bark, the laxative effect of the drug decreased. What phenomenon caused this process?	<i>A * Addictive</i> <i>B Tachyphylaxis</i> <i>C Individual sensitivity</i> <i>D Rebound syndrome</i> <i>E Withdrawal syndrome</i>	The term "addictive" defines a decrease in the reaction to the re-introduction of drugs, which requires an increase in medication.
2	A patient with peptic ulcer is prescribed antibiotic therapy. On the 3rd day, the patient noted the appearance of black feces. What is the reason for this medicine?	<i>A * Bismuth Subcitrate</i> <i>B Omeprazole</i> <i>C Metronidazole</i> <i>D Tetracycline</i> <i>E Tinidazole</i>	It is known that the intake of bismuth into the large intestine is accompanied by a chemical reaction with fecal matter and the change in the color of feces to black.
3	Hyperglycemia is revealed in a patient with rheumatoid arthritis. What drug treatment could lead to this?	<i>A * Prednisolone</i> <i>B Hydroxychloroquine</i> <i>C Acetylsalicylic acid</i> <i>D Diclofenac sodium</i> <i>E Calcemin</i>	Glucocorticosteroids (these include prednisone) adversely affect carbohydrate metabolism, which causes an increase in glucose levels (hyperglycemia).
4	Which of the following diuretics is NOT desirable to prescribe to a patient with impaired hearing?	<i>A * Furosemide</i> <i>B Spironolactone</i> <i>C Clopamide</i> <i>D Indapamide</i> <i>E Chlortalidone</i>	Loop diuretics (furosemide) accumulate in the endolymph and change its composition, leading to their potential ototoxicity.
5	The pharmacy warehouse received analgesics. Please indicate to which drug addiction can develop?	<i>A * Promedol</i> <i>B Acetylsalicylic acid</i> <i>C Naloxone</i> <i>D Diclofenac sodium</i> <i>E Paracetamol</i>	Promedol belongs to a group of narcotic analgesics; they describe the possibility of forming different types of dependencies.
6	Patients with allergic rhinitis were prescribed ephedrine in nasal drops. Buying the drug into the nose significantly improved the condition of the patient, which prompted him to use this tool every 2 hours, but under these conditions the drug became ineffective. What is the cause of this?	<i>A * Tachyphylaxis</i> <i>B Drug dependence</i> <i>C Idiosyncrasy</i> <i>D Allergy</i> <i>E Cumulation</i>	Tachyphylaxis is defined as a specific response of the body, which is accompanied by a decrease in therapeutic effect when repeated use of drugs, which requires either an increase in frequency or dose.
7	With long-term use of the drug, its effectiveness decreases. What is the name of this phenomenon?	<i>A * Addictive</i> <i>B Sensitization</i> <i>C Cumulation</i> <i>D Dependency</i> <i>E Tachyphylaxis</i>	The term "addictive" defines a decrease in the reaction to the re-introduction of drugs, which requires an increase in the number or frequency of use of drugs.
8	When dispensing a non-prescription drug for symptomatic treatment of rhinitis to a patient with arterial hypertension, to maximize the risk of developing an undesirable systemic vasoconstrictor effect, the following dosage form should be recommended:	<i>A * Ointment</i> <i>B Gel</i> <i>C Drops</i> <i>D Aerosol</i> <i>E Tablets</i>	The use of the drug in the form of ointment provides the least systemic impact and the development of undesirable action.
9	M-cholinoblockers are very widely used in modern	<i>A * Bowel atony</i>	Due to the blockade of

	practical medicine. In which case are M-cholinoblockers contraindicated?	<b>B Kidney colic</b> <b>C Bronchial asthma</b> <b>D Hepatic colic</b> <b>E Gastric ulcer</b>	M-cholinoreceptors of the smooth muscles of the gastrointestinal tract (including the intestine), these drugs cause side effects - bowel atony and constipation.
10	A patient with seasonal vasomotor rhinitis, who works as a railroad dispatcher, asked a pharmacy for advice: Which of the antihistamines does not have CNS inhibitory effects?	<b>A * Loratadine</b> <b>B Clemastine</b> <b>C Diprazine</b> <b>D Diphenhydramine</b> <b>E Pipolfen</b>	Loratadine is a second-generation H1 histamine blocker that, unlike first-generation drugs (all others), passes poorly through the blood-brain barrier and has no inhibitory and hypnotic effect.
11	A child of 4 years was prescribed an antibacterial agent to treat angina. 2 weeks after the treatment, a yellow tooth color appeared that was not removed by toothpaste. What antibiotic could have caused such a side effect?	<b>A * Tetracycline</b> <b>B Azithromycin</b> <b>C Metronidazole</b> <b>D Ceftriaxone</b> <b>E Amikacin</b>	Antibiotics-tetracyclines contain yellow dye, which is a part of tablets, this is the cause of discoloration of tooth enamel. In addition, tetracyclines disturb the balance of calcium and phosphorus, which leads to bone and joint disorders.
12	The patient complains of swelling of the face and neck, hoarseness of the voice, runny nose, difficulty breathing. An hour before, he had taken an ampicillin tablet. What incident occurred?	<b>A * Quincke edema</b> <b>B Urticaria</b> <b>C Polynosis</b> <b>D Anaphylactic shock</b> <b>E Atopic dermatitis</b>	These clinical symptoms correspond to the development of Quincke's edema - upper respiratory and facial edema.
13	An 8-year-old boy was given an antibiotic for pneumonia. He lost his hearing after the treatment. Which antibiotic group could cause this complication?	<b>A * Aminoglycosides</b> <b>B Cephalosporins</b> <b>C Penicillins are natural</b> <b>D Macrolides</b> <b>E Penicillins semi-synthetic</b>	Aminoglycosides are well accumulated in the endolymph, alter its structure, and therefore have an ototoxic effect.
14	A 6-year-old child contracted pneumonia for which an antibiotic was prescribed. After the treatment, the baby was hearing impaired. What antibiotic group could cause this complication?	<b>A * Aminoglycosides</b> <b>B Cephalosporins</b> <b>C Macrolides</b> <b>D Penicillins are natural</b> <b>E Penicillins semi-synthetic</b>	Aminoglycosides are well accumulated in the endolymph, alter its structure, and therefore have an ototoxic effect.
15	Elderly patient has been diagnosed with hospital pneumonia. It is treated with gentamicin. What side effect is most common when using antibiotics in this group?	<b>A * Ototoxic effect</b> <b>B Hematotoxic effect</b> <b>C Pseudomembranous colitis</b> <b>D Liver damage</b> <b>E Thrombophlebitis</b>	Gentamicin is a representative of the second generation of aminoglycosides. This group of antibiotics, especially in the elderly, can cause damage to the hearing organ.
16	The patient of 30 years has developed acute pyelonephritis. Which of the following drugs has a nephrotoxic effect?	<b>A * Gentamicin</b> <b>B Erythromycin</b> <b>C Ampicillin</b> <b>D Rovamycin</b> <b>E Penicillin</b>	Gentamicin, like other aminoglycosides, has a potential nephrotoxicity.
17	The patient receiving furosemide for a long time, there is a decrease in edema, increased urine output, but at	<b>A * Hypokalemia</b> <b>B Hypermagnesia</b>	The development of side effects against

	the same time there was weakness in the muscles, loss of appetite, pain in the heart. What can explain the development of these symptoms?	<b>C Hypocalcemia</b> <b>D Hypercalcemia</b> <b>E Hyperkalemia</b>	furosemide is associated with a decrease in potassium levels because furosemide is a potassium excretory diuretic.
18.	What is the side effect often seen in angina patients taking anaprilin?	<b>A * Bradycardia</b> <b>B Tachycardia</b> <b>C Diarrhea</b> <b>D Constipation</b> <b>E Bloating</b>	Anaprilin (propranolol) is a non-selective beta-blocker due to the negative chronotropic and dromotropic effects that causes bradycardia.
19.	A patient of 45 years with a diagnosis of arterial hypertension was prescribed in complex therapy enalapril, amlodipine, hydrochlorothiazide, atorvastatin, acetylsalicylic acid. Lower extremity edema appeared on the 5th day of treatment. What drug could have caused such a side effect?	<b>A * Amlodipine</b> <b>B Enalapril</b> <b>C Hydrochlorothiazide</b> <b>D Atorvastatin</b> <b>E Acetylsalicylic acid</b>	Amlodipine is a calcium antagonist with a predominant vasotropic effect. The leading side effect of this group is peripheral vasodilation and the development of peripheral edema.
20.	What is the most common side effect that patients need to be informed about when releasing antacids based on aluminum compounds?	<b>A * Pin</b> <b>B Diarrhea</b> <b>C Heartburn</b> <b>D Dysbacteriosis</b> <b>E Difficulty urinating</b>	Antacids containing aluminum inhibit intestinal motor function and therefore cause side effects - constipation.
21.	Propranolol was administered to a patient of 35 years for tachycardia. Which of the following side effects may occur with a $\beta$ -blocker?	<b>A * Bronchospasm</b> <b>B Medical dependence</b> <b>C Cumulation</b> <b>D Increased blood pressure</b> <b>E Constipation</b>	The non-selective beta-blocker propranolol has several important side effects, among which are bronchospasm. This is appropriate for the task.
22.	ACE inhibitors have been prescribed to patients with arterial hypertension. What possible side effects should the patient be warned about?	<b>A * Cough</b> <b>B Salivation</b> <b>C Urinary incontinence</b> <b>D Planning</b> <b>E Swelling of the lower extremities</b>	The development of unproductive cough is a major side effect of ACE inhibitors. This is appropriate for the task.
23.	A 59-year-old man has been using furosemide for a long time to treat heart failure. What medication for the prevention of hypokalemia should be used in this case?	<b>A * Panangin</b> <b>B Tiotriazoline</b> <b>C Acetylsalicylic acid</b> <b>D Trimetazidine</b> <b>E Enalapril</b>	Furosemide is a loop diuretic that lowers serum potassium and magnesium levels. To prevent this side effect, use potassium and magnesium (eg, panangin, asparkam).
24.	What causes dry cough in a patient who has been taking lisinopril for hypertension for a long time?	<b>A * Increasing bradykinin concentration</b> <b>B Noradrenaline depletion</b> <b>C Accumulation of angiotensin II</b> <b>D Suppression of angiotensin receptors</b> <b>E Reducing the concentration of renin</b>	ACE inhibitors (lisinopril and others) increase the level of bradykinin, which causes swelling of the mucous membrane of the respiratory tract, which in turn causes coughing.

25.	One of the antihypertensive agents was prescribed to the patient with arterial hypertension. The patient's blood pressure returned to normal, but he was disturbed by a persistent dry cough. Which of these drugs has such a side effect?	<b>A * Enalapril maleate</b> <b>B Amlodipine</b> <b>C Clonidine</b> <b>D Furosemide</b> <b>E Nifedipine</b>	Enalapril - ACE Inhibitor - A characteristic side effect is dry cough.
26.	The hypertensive patient went to the doctor with a complaint of dry cough, which appeared on the background of the treatment. What antihypertensive drug did she use?	<b>A * Lisinopril</b> <b>B Atenolol</b> <b>C Nifedipine</b> <b>D Furosemide</b> <b>E Dichlorothiazide</b>	Lysinopril - ACE Inhibitor - The leading side effect is the development of dry unproductive cough
27.	A 65-year-old patient with chronic heart failure regularly receives furosemide 40 mg on an empty stomach 3 times a week. Due to community-acquired pneumonia, the doctor prescribed combination pharmacotherapy. After 3 days the patient began to lose hearing. What is the name of the medicine that causes deafness when interacting with furosemide:	<b>A * Amikacin</b> <b>B Linex</b> <b>C Tavegil</b> <b>D Nystatin</b> <b>E Potassium iodide solution</b>	Aminoglycosides (amikacin and others) when interacting with loop diuretics (furosemide) increase the risk of ototoxicity because they have a similar mechanism to this side effect. This combination of medicines is contraindicated.
28.	Patients with hypertension for a long time took an antihypertensive drug, which suddenly stopped using. Subsequently, the patient's condition worsened, hypertensive crisis developed. Which category does this side effect belong to?	<b>A * Withdrawal syndrome</b> <b>B Cumulation</b> <b>C Tolerance</b> <b>D Sensitization</b> <b>E Dependency</b>	Long-term therapy for hypertension lasts a lifetime. The abrupt withdrawal of drugs is accompanied by a return to the original state and, even more significantly, a withdrawal syndrome, which prevents such treatment tactics.
29.	The patient purchased nitroglycerin at the pharmacy. What is the most common side effect of this drug?	<b>A * Headache</b> <b>B Hypertension</b> <b>C Dysuria</b> <b>D Dry mouth</b> <b>E Hyperglycemia</b>	Due to the increase in brain pressure, nitrates cause primarily headache.
30.	A patient receiving an indirect anticoagulant warfarin used acetylsalicylic acid to increase body temperature. Such a combination is dangerous because it increases the risk of:	<b>A * Bleeding</b> <b>B Osteoporosis</b> <b>C Neurotoxicity</b> <b>D Cardiotoxicity</b> <b>E Dysbiosis</b>	Indirect anticoagulant (warfarin) and acetylsalicylic acid are antithrombotic agents, so their combined use increases the risk of bleeding.
31.	The patient complained to the pharmacy that he had drowsiness, fatigue, and loss of attention following the use of antihistamines. What medication could cause such symptoms?	<b>A * Clemastin</b> <b>B Desloratadine</b> <b>C Loratadine</b> <b>D Cetirizine</b> <b>E Fexofenadine</b>	Clemastine is a first-generation H1 histamine blocker and, unlike other drugs, penetrates the BBB and causes these side effects.
32.	The 60-year-old patient suffers from stage II hypertension, coronary heart disease, bronchial asthma. After the correction of pharmacotherapy there was an attack of bronchospasm, shortness of breath. Which medication caused the complication?	<b>A * Propranolol</b> <b>B Nifedipine</b> <b>C Euphiline</b> <b>D Mucaltin</b> <b>E Salbutamol</b>	Propranolol - a non-selective beta-blocker - a possible side effect is bronchial obstruction, bronchospasm, shortness of breath.
33.	The patient with arterial hypertension was prescribed a diuretic hypothiazide of 0.025 g twice a day in the morning. A week later, the patient began to experience pain in the heart area, muscle weakness and limb tremor. What is the side effect of the drug?	<b>A * Hypokalemia</b> <b>B Arterial hypertension</b> <b>C Hyperglycemia</b> <b>D Hypercalcemia</b> <b>E Hypomagnesemia</b>	Hypothiazide refers to potassium excretion diuretics. These symptoms are signs of hypokalemia.

34.	A woman with a baby of 4 years, who drank a bottle of eye drops, approached the hospital. 30 minutes later, she had shortness of breath, difficulty swallowing, wheezing, dilation of the pupils, hyperthermia. Which of the drugs could cause the described manifestations?	<b>A * Atropine</b> <b>B Novocaine</b> <b>C Mesaton</b> <b>D Lidocaine</b> <b>E Adrenaline</b>	These overdose symptoms are typical for the use of M-cholin blockers (atropine sulfate).
35.	Dry cough that occurs on the background of receiving lisinopril associated with:	<b>A * Bradykinin accumulation</b> <b>B Reduced blood pressure</b> <b>C Increasing the level of calcium in the blood</b> <b>D Reduced left ventricular remodeling</b> <b>E Nephroprotective action</b>	ACE inhibitors (lisinopril and others) contribute to the synthesis of bradykinin, which causes swelling of the bronchial mucosa and causes unproductive cough.
36.	A patient with arterial hypertension and chronic bronchitis suddenly had dry cough, shortness of breath; body temperature has not changed. It is known that the patient is taking captopril. This phenomenon can be explained by the increased formation:	<b>A * Bradykinin</b> <b>B Angiotensin</b> <b>C Renin</b> <b>D Aldosterone</b> <b>E Na-urethic peptide</b>	ACE inhibitors (captopril and others) contribute to the synthesis of bradykinin, which causes swelling of the mucous membranes of the bronchus and causes unproductive cough.
37.	A 70-year-old patient with angina came to the pharmacy claiming that he had been released from a medication that had caused severe head-shattering pain, although the angina attack had been eliminated. Which antianginal agent is characterized by such a side effect?	<b>A * Nitrosorbide</b> <b>B Amlodipine</b> <b>C Nifedipine</b> <b>D Trimetazidine</b> <b>E Metoprolol</b>	Nitrates cause a rise in brain pressure due to impaired venous outflow, and therefore cause headaches.
38.	When treating enalapril, the following side effects are possible:	<b>A * Cough</b> <b>B Salivation</b> <b>C Hypokalemia</b> <b>D Constipation</b> <b>E Tibia edema</b>	Bradykinin accumulation, bronchial mucosal edema cause cough when treated with ACE inhibitors (enalapril and others).
39.	During surgery, which was performed under local anesthesia with 0.25% solution of novocaine, the patient was suddenly covered with red spots, intense sweating, tachycardia, swelling of the nasal mucosa, bronchospasm. What is the cause of this complication?	<b>A * An allergic reaction of immediate type</b> <b>B Allergic delayed type reaction</b> <b>C Tachyphylaxis</b> <b>D Recoil syndrome</b> <b>E Withdrawal syndrome</b>	These symptoms and the connection with the use of a local anesthetic are characteristic signs of immediate allergy.
40.	The patient with hypertension was given diuretic in complex therapy, which caused hypokalemia. Identify this drug:	<b>A * Hydrochlorothiazide</b> <b>B Amiloride</b> <b>C Spironolactone</b> <b>D Allopurinol</b> <b>E Triamterene</b>	Of the diuretics listed in the answers, hydrochlorothiazide is a diuretic that removes potassium ions.
41.	When using acetylsalicylic acid, the patient has bleeding mucous membranes. This phenomenon is related to:	<b>A * Inhibition of prothrombin synthesis</b> <b>B Increased absorption in the gastrointestinal tract</b> <b>C Reduction of absorption in the gastrointestinal tract</b> <b>D Protein binding disorder</b> <b>E Change the volume of distribution</b>	Acetylsalicylic acid is, according to modern ideas about its mechanism of action, an antithrombotic agent that inhibits thromboxane synthesis and is therefore capable of causing bleeding.
42.	The woman, who has been treated for a long time for	<b>A * Streptomycin</b>	Aminoglycosides



	infiltration-focal tuberculosis, has dramatically decreased hearing. Which of the following drugs could have caused such a side effect?	<b>B Isoniazide</b> <b>C Etambutol</b> <b>D Rifampicin</b> <b>E Etionamide</b>	(streptomycin) are drugs for the treatment of tuberculosis, but their side effect is ototoxicity.
43.	A 65-year-old patient complained of nausea, vomiting, slowing, and the appearance of yellow circles before his eyes. Takes digoxin 0.25 mg daily, aspecard 100 mg, metoprolol 50 mg. What pathological condition is characterized by such a symptom complex?	<b>A * Glycoside intoxication</b> <b>B Food Poisoning</b> <b>C Abstinence syndrome</b> <b>D Tachyphylaxis</b> <b>E Hypersensitivity reaction</b>	These symptoms are characteristic of the development of glycosidic intoxication. This is appropriate for the task.
44.	Propranolol was administered to a patient of 35 years for tachycardia. Which of the following adverse reactions can occur when using a $\beta$ -blocker?	<b>A * Bronchospasm</b> <b>B Medical dependence</b> <b>C Cumulation</b> <b>D Increased blood pressure</b> <b>E Constipation</b>	Beta-blockers due to the blockade of beta2-adrenoreceptors of the bronchi cause bronchospasm.
45.	Which of the following diuretics is NOT advisable for the patient with impaired hearing?	<b>A * Furosemide</b> <b>B Spironolactone</b> <b>C Clopamide</b> <b>D Indapamide</b> <b>E Chlortalidone</b>	Loop diuretics (furosemide) accumulate and change the state of the endolymph, so they cause ototoxicity.
46.	A patient who receives treatment for hypertension complains of coughing. No changes in the lung were detected during the examination of the patient. Which of the following could have caused a cough?	<b>A * Captopril</b> <b>B Amlodipine</b> <b>C Hypothiazide</b> <b>D Nebivolol</b> <b>E Clonidine</b>	ACE inhibitors (captopril and others) cause the development of dry cough. This is appropriate for the task.
47.	In a patient of 55 years on the 4th day of treatment with indomethacin, gastric bleeding occurred due to the formation of gastric ulcer. Ulcerative action of the drug is associated with a decrease in the activity of the following enzyme:	<b>A * Cyclooxygenase-1 (COX-1)</b> <b>B Cyclooxygenase-2 (COX-2)</b> <b>C lipoxygenase (LOG)</b> <b>D Tromboxansynthetase</b> <b>E Prostacyclin synthetase</b>	Inhibition of COX-1 activity by non-steroidal anti-inflammatory drugs reduces the synthesis of gastroprotective prostaglandin and promotes the development of ulcerogenic side effects.
48.	Glaucone hydrochloride is released at the pharmacy of a patient with chronic bronchitis. What is the typical side effect of the drug to warn the patient?	<b>A * Reduced blood pressure</b> <b>B Excitation of the central nervous system</b> <b>C Heart rhythm disturbance</b> <b>D Increasing intraocular pressure</b> <b>E Allergic skin rashes</b>	Peripheral-type antitussive agents are capable of reducing blood pressure as a possible side effect.
49.	A woman complained to the pharmacy to complain of a change in the color of her urine to red. What anti-tuberculosis drug caused this change?	<b>A * Rifampicin</b> <b>B Isoniazide</b> <b>C Streptomycin</b> <b>D Doxycycline hydrochloride</b> <b>E Hingamin</b>	Rifampicin has a red-orange color to the substance, so it is able to color the urine by releasing it from the body.
50.	The patient with hypertension was given diuretic in complex therapy, which caused hypokalemia. Identify this drug:	<b>A * Hydrochlorothiazide</b> <b>B Amiloride</b> <b>C Spironolactone</b> <b>D Allopurinol</b> <b>E Triamterene</b>	Only the hydrochlorothiazide from the listed diuretics is the one that removes potassium from the body.
51.	After another injection of insulin in a patient with	<b>A * Glucose</b>	Perhaps in this case

	diabetes mellitus, his condition worsened: anxiety, cold sweat, limb tremor, general weakness. Choose an emergency room:	<b>B Hydrocortisone</b> <b>C B utamid</b> <b>D Noradrenaline</b> <b>E Glibutide</b>	there were phenomena of hypoglycemia due to the fact that the patient did not eat after insulin administration. For the treatment of this condition, use a glucose solution dosage.
52.	A 45-year-old patient receiving neodymicumarine for thrombophlebitis for two weeks showed a decrease in prothrombin content in the blood, and microhematuria in the urine. Which medication should be used as a neodymicarin antagonist?	<b>A * Vicasol</b> <b>B Protamine sulphate</b> <b>C Sodium citrate</b> <b>B Heparin</b> <b>E Aminocaproic acid</b>	Vicasol is a typical antidote for overdose with indirect anticoagulants (neodicoumarin).
53.	A patient with complaints of dry mouth, photophobia and visual impairment was delivered to the reception ward. Objectively: skin is hyperexcited, dry, pupils dilated, tachycardia. The diagnosis was made: Belladonna alkaloid poisoning. Which medication should I use as an antidote?	<b>A * Proserine</b> <b>B Aceclidine</b> <b>C Pilocarpine</b> <b>D Armin</b> <b>E Dipiroxime</b>	Proserine as an anticholinesterase agent is an antagonist of atropine, the major alkaline of belladonna.
54.	What drug can cause the development of constipation in a patient receiving combination therapy for hypertension?	<b>A * Verapamil</b> <b>BFurosemide</b> <b>C Trimetazidine</b> <b>D Panangin</b> <b>E Acetylsalicylic acid in small doses</b>	Verapamil is a calcium antagonist with a predominantly cardiotropic effect, decreasing the flow of calcium ions into the smooth muscles of the intestine and reducing its motor and motor activity, which may be accompanied by the development of constipation.
55.	A patient with a diagnosis of morphinism was admitted to the narcological department. The doctor noted a decrease in the pharmacological activity of morphine in the patient. What is the cause of the change in drug activity?	<b>A * Addictive</b> <b>B Material cumulation</b> <b>C Functional cumulation</b> <b>D ANTAGONISM</b> <b>E Summation</b>	With long-term use of drugs, addiction may develop, which requires an increase in dose and frequency of use.
56.	Hyperglycemia is found in a patient who has been treated for a long time for rheumatoid arthritis. Which of the drugs could cause it?	<b>A * Dexamethasone</b> <b>BDiclofenac sodium</b> <b>C Ibuprofen</b> <b>D Delagil</b> <b>E Levamisole</b>	Dexamethasone (systemic glucocorticoid) is a disordered carbohydrate metabolism listed in the answers and may cause hyperglycemia and further steroid diabetes.
57.	In the course of pharmacotherapy of bronchitis, the patient had dyspeptic disorders, photodermatitis, and impaired liver function. What drug of the intended patient could cause these phenomena?	<b>A * Doxycycline</b> <b>B Paracetamol</b> <b>C Ascorbic acid</b> <b>D Acetylcysteine</b> <b>E Codeine phosphate</b>	When administering synthetic tetracycline (doxycycline), these side effects are possible.
58.	The consultant doctor told the patient about the possible side effect of metronidazole, which is manifested on the background of alcohol consumption. Specify the mechanism of this phenomenon:	<b>A * Blocking of the enzyme alcohol dehydrogenase</b> <b>B Activation of the enzyme alcohol dehydrogenase</b> <b>C Acetylcholinesterase enzyme blocking</b>	Metronidazole and other nitroimidazole derivatives have a side-tetar-like effect that is seen against the background of alcohol consumption and is associated with

		<b>D Activation of the enzyme acetylcholinesterase</b> <b>E Activation of the enzyme glucose-6-phosphate dehydrogenase</b>	inhibition of the activity of the alcohol dehydrogenase enzyme.
59.	A patient with a hypertensive crisis was introduced with a ganglioblocker - benzohexone. Which side effect should you be aware of after administering the drug?	<b>A * Orthostatic hypotension</b> <b>B Withdrawal Syndrome</b> <b>C Suppressive effect on the central nervous system</b> <b>D Disturbance of taste sensations</b> <b>E Diarrhea</b>	Gangblockers rapidly reduce blood pressure due to significant vasodilation, which can cause orthostatic collapse.
60.	A 32-year-old patient takes anti-TB drugs. After a while he noticed that the urine had turned red-orange. Which drug is the cause of this?	<b>A * Rifampicin</b> <b>B Isoniazide</b> <b>C Preparation</b> <b>D ETHAMBUTOL</b> <b>E Streptomycin sulfate</b>	Rifampicin has a red-orange color to the substance, so it is able to color the urine by releasing it from the body.
61.	A 33-year-old woman, who has been treated for a long time for chronic polyarthritis, complains of hypertension, changes in the distribution of adipose tissue, and disorders of the menstrual cycle. What drug does the patient take?	<b>A * Prednisolone</b> <b>B Indomethacin</b> <b>C Butadion</b> <b>D Sinaflan</b> <b>E Diclofenac Sodium</b>	These side effects are characteristic of the use of systemic glucocorticoids (prednisolone).
62.	A 0.25% solution of novocaine was administered to the patient for analgesia. Suddenly, the patient was covered with red spots, he had intense sweating, tachycardia, bronchospasm, swelling of the mucous membrane of the nose. What is the cause of this complication?	<b>A * An allergic reaction of immediate type</b> <b>B Allergic reaction of delayed type</b> <b>C Local irritant effect</b> <b>D Tachyphylaxis</b> <b>E Cancer syndrome</b>	These symptoms and the connection with the introduction of local anesthetics are characteristic of the development of an allergic reaction of immediate type.
63.	The patient was warned that cough may occur when using the drug he was prescribed. Name this drug:	<b>A * Lisinopril</b> <b>B Clofeline</b> <b>C Phenigidine</b> <b>D Dichlorothiazide</b> <b>E Indopamide</b>	Of these antihypertensives, it is lisinopril (ACE inhibitor) that can cause a side effect of coughing.
64.	The patient mistakenly accepted the salt containing the barium. Which of the following salts does not have a toxic effect on the human body?	<b>A * Barium sulfate</b> <b>B Carbonate bar</b> <b>C Barium nitrate</b> <b>D Barium acetate</b> <b>E Barium chloride</b>	Barium sulphate is non-toxic and is used as a tool for the diagnosis and X-ray examination of the gastrointestinal tract.
65.	When performing a benzylpenicillin sensitivity test, the patient developed anaphylactic shock. What drug should be injected at the site of antibiotic administration?	<b>A * Adrenaline hydrochloride</b> <b>B Norepinephrine hydrotartrate</b> <b>C Atropine sulfate</b> <b>D Propranolol</b> <b>E Ceftriaxone</b>	Adrenaline causes local vasoconstriction and thus slows the absorption of antibiotics from the sample site.
66.	The pharmacist was approached by a patient who had been taking phenazepam for a month. The patient insisted on the purchase of two more packages of this drug, explaining that he was feeling unwell without phenazepam. What underlies the side effect of a drug that has developed in a patient?	<b>A * Drug dependence</b> <b>B Idiosyncrasy</b> <b>C Post-syndrome syndrome</b> <b>D Cumulation</b> <b>E Addictive</b>	Prolonged use of tranquilizers contributes to the development of addiction. This is appropriate for the task.
67.	The patient with lower extremity thrombophlebitis	<b>A * Protamine sulfate</b>	Protamine is a specific

	showed signs of heparin overdose. This situation shows the introduction of:	<b>B Phenilin</b> <b>C Vikasolu</b> <b>D Pentoxifylline</b> <b>E Dipyridamole</b>	antagonist of direct anticoagulants (heparin), so it is used as an antidote.
68.	Patient 55 years of age on day 4 of diclofenac sodium treatment had gastric bleeding as a result of gastric ulcer. What is the ulcerative effect of the drug?	<b>A * Decreased prostaglandin E2 formation</b> <b>B Reduced leukotriene formation</b> <b>C Phosphodiesterase enzyme blocking</b> <b>D Reduced red blood cell production</b> <b>E Reduced leukocyte formation</b>	Diclofenac sodium and other non-selective non-steroidal anti-inflammatory drugs cause erosion and gastric ulcer formation by reducing COX-1 activity and synthesis of gastroprotective prostaglandin E2.
69.	After the end of the drug, addicts have severe mental, neurological somatic disorders. What is the name of this symptom complex?	<b>A * Withdrawal syndrome</b> <b>B Idiosyncrasy</b> <b>C Sensitization</b> <b>D Cumulation</b> <b>E Tolerance</b>	With long-term drug use addiction is formed, which is characterized by the appearance of such symptoms.
70.	The patient was admitted to the receiving ward in a coma. Blood sugar level is 25 mmol/l. What medication is the emergency medicine of choice?	<b>A * Insulin</b> <b>B Humulin ultralent</b> <b>C 40% glucose solution</b> <b>D Ringer's solution</b> <b>E 10% glucose solution</b>	The possible cause of coma in this case is hyperglycemia, so short-acting insulin is used to quickly restore the patient's condition. Humulie ultralente is a long-acting insulin, not used in this case.
71.	Digoxin is prescribed to patients with chronic heart failure and chronic renal failure. A week later, bradycardia, extrasystole, deterioration of visual acuity, and impaired color perception occurred. How will you interpret the changes in the clinical picture?	<b>A * Digital Toxicity</b> <b>B Complications of chronic heart failure</b> <b>C Complications of chronic renal failure</b> <b>D Arterial hypotension</b> <b>E Iochondric syndrome</b>	Digoxin intoxication can be triggered by the presence of renal failure due to the fact that digoxin is excreted by the kidneys.
72.	As a result of uncontrolled ingestion of the vitamin drug in hemeralopia, anorexia, nausea, vomiting, diarrhea, and hyperthermia arose in the child. What drug did the baby take?	<b>A * Retinol acetate</b> <b>B Nicotinamide</b> <b>C Somatotropin</b> <b>D Routine</b> <b>Ergocalciferol</b>	Hemeralopia occurs as a result of a lack of vitamin A. Retinol is a preparation of this vitamin. This is appropriate for the task.
73.	Newborn's "gray syndrome" (temperature drop below normal, acidosis, respiratory disorders, gray skin color, collapse) develops with antibiotic use:	<b>A * Levomycetin</b> <b>B Tetracycline</b> <b>C Gentamicin</b> <b>D Ciprofloxacin</b> <b>E Erythromycin</b>	These side effects are characteristic of the use of levomycetin. This is appropriate for the task.
74.	The doctor prescribed a patient with rheumatoid arthritis, the use of which the following side effects are possible: the development of "steroid diabetes", edema, osteoporosis, arterial hypertension. Name this drug:	<b>A * Prednisone</b> <b>B Dichlorothiazide</b> <b>C Mezaton</b> <b>D Butadion</b> <b>E Strophanthin</b>	These side effects are characteristic of the use of systemic glucocorticoids (prednisolone).
75.	The patient of 74th years for a long time uses for treatment of heart failure digoxin. There were complaints of nausea, vomiting, diarrhea, impaired vision. The doctor thought about possible intoxication with the drug. Which antidote should you recommend for appointment?	<b>A * Unithiol</b> <b>B Calcium chloride</b> <b>C Protamine sulphate</b> <b>D Prozerin</b> <b>E Atropine sulfate</b>	Unithiol is a specific donor of thiol groups of transmembrane ATP-ase and is used in cardiac glycoside poisoning (digoxin).
76.	Patient with acute myocardial infarction in the complex therapy received drug-anticoagulant. After a while,	<b>A * Heparin</b> <b>B Aminocaproic acid</b>	Protamine sulfate is used as an antidote for

	hematuria appeared. To eliminate this complication, protamine sulfate was administered. What anticoagulant did the patient receive?	<b>C Thrombin</b> <b>D Fibrinogen</b> <b>E Vicasol</b>	overdosage by direct anticoagulants to which heparin belongs.
77.	Protamine sulfate is used as an antidote for overdosage by direct anticoagulants to which heparin belongs.	<b>A * Potassium</b> <b>B Sodium</b> <b>C Magnesium</b> <b>D Iron</b> <b>E Calcium</b>	Furosemide causes hypokalemia, so it is used with potassium preparations (asparkam, panangin).
78.	Patients receiving complex therapy for bronchial asthma receive salbutamol. What side effects may develop on the background of this medicine?	<b>A * Tremor</b> <b>B Dysbacteriosis</b> <b>C Hyperthermia</b> <b>D Nephrotoxicity</b> <b>E Hepatotoxicity</b>	Salbutamol overdose can increase CNS activity and cause tremor.
79.	A 67-year-old patient treated for bronchial asthma experienced limb tremors, headache, insomnia, and extrasystole. What could cause these symptoms?	<b>A * Eufilin</b> <b>B Prednisolone</b> <b>C Tavegil</b> <b>D Intal</b> <b>E Acetylcysteine</b>	Of these drugs it is theophylline (euphilin) that stimulates the function of the CNS, exhibits cardiotoxicity, so it can provoke these side symptoms.
80.	The patient receives pharmacotherapy for peptic ulcer of the stomach. What medication causes the stool to become black?	<b>A * Bismuth Subcitrate</b> <b>B Omeprazole</b> <b>C Maalox</b> <b>D Famotidine</b> <b>E Pancreatin</b>	For the purpose of preparations of colloidal bismuth (denol) is characterized by interaction with the fecal masses and the change to the black color of bowel movements.
81.	The patient with peptic ulcer acquired a black color during combination pharmacotherapy. Name the drug that could have caused the following change:	<b>A * Bismuth Subcitrate</b> <b>B Omeprazole</b> <b>C Actovegin</b> <b>D Metronidazole</b> <b>E Ranitidine</b>	For the purpose of preparations of colloidal bismuth (denol) is characterized by interaction with the fecal masses and the change to the black color of bowel movements.
82.	The patient was prescribed an antacid containing aluminum hydroxide. What is the most common undesirable reaction that should occur to the patient?	<b>A * Constipation</b> <b>B Flatulence</b> <b>C Diarrhea</b> <b>D Reduced appetite</b> <b>E Nausea</b>	Antacids, containing aluminum, inhibit the motor-motor function of the intestine and cause constipation.
83.	A patient of 54 years who has several years suffering from chronic hyperacid gastritis is prescribed almagel. What complications of digestive pharmacotherapy can occur first?	<b>A * Constipation</b> <b>B Nausea</b> <b>A Anorexia</b> <b>D Vomiting</b> <b>E Diarrhea</b>	Antacid preparations containing aluminum (almagel), suppress the motor-motor function of the intestine and cause constipation.
84.	Long-term administration of aluminum-containing antacids indicates:	<b>A * Bone lesions</b> <b>B Hearing loss</b> <b>C Polyuria</b> <b>D Salivation</b> <b>E Hypercholesterolemia</b>	Antacids containing aluminum slow the absorption of calcium and phosphorus and can trigger osteoporosis.
85.	A patient of 45 years during the last year has been taking nitrates of prolonged action 2 times a day. Currently, there is a decrease in the effectiveness of pharmacotherapy. What side effect can be foreseen in the first place?	<b>A * Development of nitrate tolerance</b> <b>B. Progression of coronary heart disease</b> <b>C. Progression of coronary atherosclerosis</b> <b>D Myocardial infarction</b> <b>E Excursion of coronary</b>	A side condition that develops with prolonged use of nitrates, caused by a decrease in nitric oxide levels and sensitivity of receptors, requires discontinuation of

		<i>circulation</i>	therapy and replacement of drugs.
86.	In a patient of 54 years suffering from hypertension, a phenomenon of bronchospasm occurred on the background of pharmacotherapy. The doctor regarded this as a complication of the therapy that caused the drug of this group:	<i>A * Beta-blockers B Alpha blockers C Ganglioblockers D Calcium antagonists E Diuretics</i>	Beta-blockers due to the blockade of beta2-adrenoreceptors of the bronchi can cause a side effect in the form of bronchospasm.
87.	What long-term antacid drug can trigger constipation, osteoporosis, encephalopathy?	<i>A * Aluminum hydroxide B Sodium bicarbonate C Sodium alginate D Magnesium oxide E Calcium carbonate</i>	Among these antacids, it is aluminum containing the same side effects that can cause these side effects.
88.	The patient on the background of pharmacotherapy of arterial hypertension had a dry cough. Which group of drugs is characterized by such a side effect?	<i>A * ACE inhibitors B Neuroleptics C Tranquilizers D Antacids E Calcium antagonists</i>	ACE inhibitors increase bradykinin release and thus cause bronchial mucosa swelling and cough.
89.	A child of 4 years was prescribed antibacterial drug for the treatment of angina. A week after the treatment, the child complained of tinnitus, hearing loss. What antibiotic could have caused such a side effect?	<i>A * Gentamicin B Metronidazole C Penicillin D Azithromycin E Ceftriaxone</i>	Gentamicin belongs to the group of antibiotics-aminoglycosides, which have a side ototoxic effect.
90.	The patient receives heparin for acute myocardial infarction. On day 3 hematuria appeared, subcutaneous hematomas. What drug should be given to the patient as an antidote?	<i>A * Protamine sulfate B Vikasol C Acetylsalicylic acid D Clopidogrel E Streptokinase</i>	Protamine is a specific antidote for overdose with direct anticoagulants (heparin).
91.	The patient in complex therapy of bronchial asthma receives salbutamol. What are the side effects that may develop when taking this medicine?	<i>A * Tremor B Dysbacteriosis C Hyperthermia D Nephrotoxicity E Hepatotoxicity</i>	Salbutamol overdose can increase CNS activity and cause tremor.
92.	Side effects in the form of Ray syndrome (encephalopathy, liver damage in the form of fatty dystrophy) occurs in children on the background of fever viral origin when taking this drug:	<i>A * Acetylsalicylic acid B Celecoxib C Ibuprofen D Metamizole sodium E Paracetamol</i>	From non-steroidal anti-inflammatory drugs, acetylsalicylic acid is capable of provoking the occurrence of Ray's syndrome, so it is not used as an antipyretic agent in childhood.
93.	A patient with bronchial asthma was attacked for a long time with a drug attack, after which he experienced nausea, headache, agitation and palpitations. Which of the following drugs could have caused such a reaction?	<i>A * Eufilin B Suprastin C Papaverine hydrochloride D Prednisone E Ambroxol</i>	Of these drugs euphilin stimulates CNS function, exhibits cardiotoxicity, so it can provoke these side symptoms.
94.	In the pregnant woman 25 years in the third trimester of pregnancy at the next ultrasound examination revealed a defect in the development of the baby. From the anamnesis, it is known that a woman, without a doctor's appointment, took long doses of diazepam during pregnancy. What kind of side effect does it take?	<i>A * Teratogenic B Mutagenic C Carcinogenic D Fetotoxic E Embryotoxic</i>	The development of defects in the fetus is indicated as a teratogenic side effect. This is appropriate for the task.
95.	The patient underwent a course of palliative morphine hydrochloride therapy for a week, after which he began to require further administration of the drug. What is the phenomenon in this case?	<i>A * Dependency B. Tolerance C Summation D Potentiation E Cumulation</i>	Palliative therapy is most often symptomatic in patients with oncopathology requiring painkillers. It

			is the use of narcotic analgesics in this case that is the cause of the development of addiction.
96.	In the course of anthelicobacter quadrotherapy, the patient had a black stool. What drug could have caused such a side effect?	<b>A * Bismuth Subcitrate</b> <b>B Omeprazole</b> <b>C Clarithromycin</b> <b>D Metronidazole</b> <b>E Amoxicillin</b>	For the purpose of preparations of colloidal bismuth (denol) is characterized by interaction with the fecal masses and the change to the black color of bowel movements.
97.	Patient 63 years old with coronary heart disease was diagnosed with squamous glaucoma. Which of the following drug groups is contraindicated in this case?	<b>A * Nitrates</b> <b>B Statins</b> <b>C Beta blockers</b> <b>D Anticoagulants</b> <b>E Calcium antagonists</b>	Nitrates contribute to the increase in intrauterine pressure, so contraindicated in the presence of concomitant glaucoma.
98.	The patient with arterial hypertension receiving captopril was prescribed potassium diuretic spironolactone. What complication of therapy can this combination lead to?	<b>A * Hyperkalemia</b> <b>B Hyponatremia</b> <b>C Hyponatremia</b> <b>D Hypocalcemia</b> <b>E Hypoglycemia</b>	ACE inhibitors (captopril and others) have a possible side effect - hyperkalemia. Therefore, their combined use with potassium-sparing diuretics is undesirable.
99	When using acetylsalicylic acid, the patient developed bleeding mucous membranes. What is this phenomenon related to?	<b>A * Inhibition of prothrombin synthesis</b> <b>B Change the volume of distribution</b> <b>C Protein binding disorders</b> <b>D Increase in intestinal suction</b> <b>E Reduction of GCT absorption</b>	Acetylsalicylic acid is an antithrombotic agent that can cause mucosal bleeding. This is appropriate for the task.
100	Patient after treatment for community-acquired pneumonia complains of hearing loss. What antibacterial agent could have caused this side effect?	<b>A * Gentamicin</b> <b>B Cefazolin</b> <b>C Clarithromycin</b> <b>D Ciprofloxacin</b> <b>E Amoxicillin / clavulanate</b>	Gentamicin belongs to the group of antibiotics-aminoglycosides, which are characterized by ototoxicity. This is appropriate for the task.
101	Consult a patient with angina pectoris who is taking nitrates of prolonged action. What side effect is most characteristic of these agents?	<b>A * Headache</b> <b>B Nausea</b> <b>C Vomiting</b> <b>D Constipation</b> <b>E Diarrhea</b>	Nitrates increase intracranial pressure and cause headaches.
102	The patient with tuberculosis after the beginning of treatment had reddening of urine, saliva, lacrimal fluid. What drug could cause such phenomena?	<b>A * Rifampicin</b> <b>B Ciprofloxacin</b> <b>C Benzylpenicillin sodium salt</b> <b>D Alcohol iodine solution</b> <b>E Isoniazid</b>	Rifampicin has a red-orange color to the substance, so it is able to paint in the appropriate color of body fluid by isolating them from the body.
103	The patient had complaints of hypersalivation, runny nose, skin rashes, and itching (phenomena of iodism) while receiving expectorant. Please indicate which	<b>A * Potassium iodide</b> <b>B Mucaltin</b> <b>C Thermopsis herb</b>	Iodine is excreted through the airways and, above all, causes

	remedy triggered these adverse reactions:	<i>infusion</i> <i>D Ambroxol syrup</i> <i>E Ammonium chloride</i>	these side effects.
104	What side effects are commonly seen in angina pills receiving anaprilin?	<i>A * Bradycardia</i> <i>B Tachycardia</i> <i>C Bloating</i> <i>D Hearing loss</i> <i>E Reduced vision</i>	Anaprilin is a non-selective beta-blocker. Among these side effects bradycardia is the right answer because it inhibits automatism and conduction.
105	After administration of insulin, a patient suddenly developed hunger, limb tremor, agitation, and moist skin. What complication is likely developing in the patient?	<i>A*Hypoglycemic coma</i> <i>BCollapse</i> <i>CHyperglycemic coma</i> <i>DSeizure syndrome</i> <i>EPulmonary edema</i>	After an insulin injection, you need to eat. If you don't, symptoms of low glucose appear.
106	In the postoperative period, a man was receiving promedol (trimeperidine) for a long time. When this drug was discontinued, the patient developed psychic and somatic disturbances. What phenomenon is observed in this case?	<i>A*Withdrawal syndrome</i> <i>BSteal syndrome</i> <i>CTachyphylaxis</i> <i>DRebound syndrome</i> <i>EIdiosyncrasy</i>	Narcotic analgesics (promedol) cause the development of dependence and withdrawal symptoms.
107	Among the listed antibacterial drugs, select the group of drugs that are nephro- and ototoxic.	<i>A*Amonoglycosides</i> <i>BNitrofurans</i> <i>CMacrolides</i> <i>DFluoroquinolones</i> <i>EAmphenicols</i>	Such side effects are typical for the use of aminoglycosides.
108	During the course of treatment for chronic heart failure, the patient developed bradycardia, nausea, vomiting and started to see yellow-green circles. What group of drugs has caused these signs?	<i>A*Cardiac glycosides</i> <i>BDiuretics</i> <i>CBeta-blockers</i> <i>DACE inhibitors</i> <i>ENitrates</i>	Among the side effects listed, changes in color perception are characteristic of cardiac glycosides.
109	A man has bought nitroglycerine for sublingual administration at a pharmacy. He wants to know, what side effects might develop after taking this medicine. What is the most common side effect of this drug?	<i>A*Headache</i> <i>BDrowsiness</i> <i>CUrinary retention</i> <i>DDry cough</i> <i>EIncreased blood pressure</i>	When using nitroglycerin and other nitrates, headaches are possible due to increased venous pressure in the skull.
110	A woman suddenly developed an attack of angina pectoris. To stop the attack, she took a medicine. After taking this medicine she developed an intense headache, red face, tachycardia. What group of drugs typically has such side effects?	<i>A*Nitrates</i> <i>BDiuretics</i> <i>CCalcium channel blockers</i> <i>DAlpha-adrenergic agonists</i> <i>EBeta-blockers</i>	The use of nitrates causes the listed side effects.
111	What group of drugs can be characterized by a side effect, where the color perception of surrounding objects is distorted, making everything yellow-green tinted?	<i>A*Cardiac glycosides</i> <i>BMucolytics</i> <i>CAntibiotics</i> <i>DInhaled glucocorticoids</i> <i>ENSAID</i>	The symptoms described are characteristic of intoxication with cardiac glycosides, especially changes in color perception.
112	A patient with arterial hypertension has been taking a beta-blocker (bisoprolol) for a long time. After his condition improved, he suddenly stopped taking this drug, which caused a sharp increase in the blood pressure. What complication of the therapy has occurred in this case?	<i>A*Withdrawal syndrome</i> <i>BDysbacteriosis</i> <i>CBradycardia</i> <i>DReduced sensitivity</i> <i>EBronchospasm</i>	Treatment of arterial hypertension is carried out throughout life. If an effective drug is suddenly discontinued, then withdrawal syndrome occurs, which is characterized by a sharp deterioration in the course of the disease, and sometimes the



			development of a hypertensive crisis.
113	A 58-year-old patient with persistent bronchial asthma receives long-term inhalation therapy. Within a week, symptoms of candidiasis appeared in her oral cavity. What medicines could have caused this side effect?	<i>A*Inhaled glucocorticosteroids</i> <i>BInhaled muscarinic antagonists</i> <i>CInhaled beta2-adrenergic agonists</i> <i>DHerbal antiseptics</i> <i>EMucolytics</i>	The use of glucocorticosteroids in general and inhaled ones in particular causes a state of immunosuppression, which is accompanied by the development of a secondary infection, in this case oral candidiasis.
114	A 65-year-old man with community-acquired pneumonia was prescribed antibiotic amikacin. It should be kept in mind, that amikacin has the following side effect:	<i>A*Ototoxicity</i> <i>BVomiting</i> <i>CIncreased blood pressure</i> <i>DDecreased blood pressure</i> <i>ERed coloring of urine</i>	Amikacin is a member of the aminoglycoside group, which is characterized by ototoxicity.
115	A 12-year-old girl has been diagnosed with acute pyelonephritis. What antibacterial agent has an <b>age limit</b> for its prescription to a patient?	<i>A*Levofloxacin</i> <i>BCefuroxime</i> <i>CClarithromycin</i> <i>DAmoxicillin</i> <i>EBenzylpenicillin sodium salt</i>	Fluoroquinolones (levofloxacin) are contraindicated in children due to their potential chondrotoxicity.
116	What nonsteroidal anti-inflammatory drug is the most hematotoxic and can cause agranulocytosis?	<i>A*Metamizole sodium (analgin)</i> <i>BIbuprofen</i> <i>CNimesulide</i> <i>DIndomethacin</i> <i>EAcetylsalicylic acid</i>	Pyrazolone derivatives (metamizole sodium) of all NSAIDs have the most powerful side effect of inhibiting bone marrow activity (hematotoxicity)
117	A patient with arterial hypertension was prescribed enalapril, but after 2 weeks of treatment, taking this drug at the dose of 10 mg twice a day, the patient developed a dry non-productive cough. What is the likely cause of this side effect?	<i>A*Accumulation of residual bradykinin in the blood</i> <i>BExacerbation of chronic bronchitis</i> <i>CIncreased tone of the cough center</i> <i>DGastroesophageal reflux</i> <i>EInhibition of histamine synthesis</i>	ACE inhibitors (enalapril) cause a dry cough due to the accumulation of bradykinin in the blood.

### TOPIC 9. Drug Interaction

No	Test of booklets "Step-2"	Distractors (A-E)	Explanation
1	Explain why the anticoagulant effect of syncumar decreases with its use with phenobarbital:	<i>A * Phenobarbital activates liver microsomal enzymes</i> <i>B Phenobarbital inhibits liver microsomal enzymes</i> <i>C Does develop allergy to syncumar</i> <i>D The antagonism of these drugs is manifested</i> <i>E Mutual inactivation</i>	Phenobarbital is an inducer of microsomal enzymes of the liver, which leads to an acceleration of the metabolism of other drugs and, thus, a decrease in their therapeutic effect.

		<i>occurs</i>	
2	The risk of taking gentamicin and acyclovir in tablets is increased with:	<i>A * Nephrotoxicity B Hepatotoxicity C Cardiotoxicity D Neurotoxicity E Importance of allergic reactions</i>	Each of these drugs in the given combination of drugs has a toxic effect on the kidneys, which increases the risk of their damage.
3	With the simultaneous use of doxycycline hydrochloride and oral contraceptive observed:	<i>A * Decreased effectiveness of oral contraceptives B Increased effectiveness of oral contraceptives C Increased antibacterial effect of doxycycline D Decrease of antibacterial effect of doxycycline</i>	Synthetic tetracycline (doxycycline) reduces the functional activity of hormonal contraceptives, which increases the risk of unplanned pregnancy.
4	Consult an internist, why is it not advisable to use antacid medicines at the same time as iron supplements?	<i>A * The absorption of iron is impaired B Increases in protein binding C Deposition of iron deposition in the body D Intensifies intoxication with iron E The elimination of iron preparations is accelerated</i>	Antacids have the ability to form a protective film on the gastric mucosa, which inhibits the absorption of other drugs. Therefore, to prevent this requires a two-hour interval between the use of funds.
5	With simultaneous administration of metronidazole and oral coumarin anticoagulants a number of patients should be advised of the following side effect:	<i>A * Increased anticoagulant activity and risk of bleeding B Decrease in the effect of anticoagulants C Approach to the effect of metronidazole D Reduction of the effect of metronidazole E Improvement of neurotoxicity</i>	Metronidazole is an inhibitor of microsomal hepatic enzymes, thus it enhances the functionality of other drugs, in this case indirect anticoagulants - as a result of possible bleeding.
6	The common use of furosemide with antibiotics of the aminoglycoside group causes:	<i>A * Ototoxicity B Increased blood pressure C Colicks D Sweating E Increasing intraocular pressure</i>	Loop diuretics (furosemide) and antibiotics-aminoglycosides have a similar oto-toxic effect (accumulation in the endolymph and reducing its amount). Therefore, joint use increases the risk of hearing loss and is contraindicated.
7	What is the name of a phenomenon when one drug weakens the action of another?	<i>A * Antagonism B Addictive C Sensitization D Potentials E Tachyphylaxis</i>	Antagonism is a phenomenon when one drug weakens the activity of another when combined.
8	What is the name of a phenomenon when one drug enhances the action of another?	<i>A * Synergism B ANTAGONISM C Sensitization D Abstinence</i>	Synergism is defined as the simultaneous action in one direction of two or more drugs,

		<i>E Tachyphylaxis</i>	which provides a higher overall effect than the action of each individual drug.
9	During local anesthesia, a solution of adrenaline hydrochloride is added to the novocaine solution. What is the purpose of this?	<b>A * For vasoconstriction</b> <b>B To expand vessels</b> <b>C To increase smooth muscle tone</b> <b>D To reduce smooth muscle tone</b> <b>E To reduce pain sensitivity</b>	Adrenaline hydrochloride is a non-selective adrenomimetic which, by stimulating the alpha-adrenergic receptors of peripheral vessels, causes them to narrow, which in turn prolongs the action of local anesthetics.
10	The anesthesiologist should have surgery using neuroleptanalgesia. Which of the following drug combinations is appropriate in this case?	<b>A * Fentanyl with droperidol</b> <b>B Dperperidol with prednisolone</b> <b>C Fentanyl with diazepam</b> <b>D Diazepam with aminazine</b> <b>E Promedil with amitriptyline</b>	Neuroleptanalgesia is defined as a type of anesthesia with the combined use of neuroleptic (droperidol) and narcotic analgesic (fentanyl (which enhance the action of each other. This corresponds to the conditions of the task).
11	The doctor prescribed sodium diclofenac for a long time taking phenobarbital. However, the anti-inflammatory effect of diclofenac was weaker than expected due to the pharmacokinetic interaction of these drugs. What processes could result from such drug interactions?	<b>A * Increased metabolic rate of the drug in the liver</b> <b>B Decreased metabolic rate of the drug in the liver</b> <b>C Reduced protein concentration in plasma</b> <b>D Changes in receptor sensitivity</b> <b>E Increase in the dose of medicines</b>	Phenobarbital is an inducer of liver microsomal enzymes, whereby it accelerates the biotransformation of other drugs (eg, diclofenac sodium), which reduces the pharmacological activity of the latter.
12	Reduction of absorption of tetracycline group drugs when used concurrently with antacid agents is an example:	<b>A * Pharmacokinetic compatibility</b> <b>B Pharmaceutical Incompatibility</b> <b>C Pharmacodynamic incompatibility</b> <b>D Synergism of drugs</b> <b>E Functional antagonism of drugs</b>	Antacids, in addition to neutralizing the level of stomach hydrochloric acid, have a film-forming and gastroprotective effect that reduces the absorption of other drugs used simultaneously.
13	An ACE inhibitor (ACEI) and a potassium-sparing diuretic were prescribed to a patient of 56 years for the treatment of hypertension. This combination:	<b>A * Irrational, as the risk of developing hyperkalemia increases</b> <b>B Rational, as the risk of developing hypokalemia decreases</b> <b>C Rational as far as potentiation of ACE inhibitory action is potentiated</b> <b>D Irrational, as the antihypertensive effect of ACEF decreases</b> <b>E Irrational, as the risk</b>	ACE inhibitors are known to increase serum potassium levels with prolonged use. Therefore, their use with potassium-sparing diuretics is undesirable due to the possible development of hyperkalemia and impaired cardiac function.

		<i>of orthostatic collapse increases</i>	
14	During the dispensation of medicines at the pharmacy, the pharmacist drew the patient's attention to the impracticality of the simultaneous use of cyanocobalamin and thiamine chloride. What is the name of the type of interaction of these drugs?	<i>A * Pharmaceutical B Pharmacodynamic C Pharmacokinetic D Synergism E Antagonism</i>	Cobalt ion contained in cyanocobalamin destroys other vitamins; in this case, it is pharmaceutically incompatible with thiamine.
15	When releasing iron from the pharmacy for ingestion - ferroplex, it is necessary to warn the patient that this drug cannot be washed with milk and consumed with it dairy products, as long as:	<i>A * Poor soluble chelate complexes are formed B Prolonged effect of iron preparations C The activity of the drug is increased D The drug is absorbed faster E The drug is expedited</i>	The calcium contained in dairy products prevents the absorption of iron, so this combination of medicines and products should be avoided.
16	On the basis of alcohol intake in a patient receiving aminazine for the treatment of psychosis, there was a sharp suppression of the central nervous system. What can this be about?	<i>A * Potentiation of effects B Addictive C Teratogenic effect D Allergy E Idiosyncrasy</i>	Ethyl alcohol (alcohol), as well as neuroleptics (aminazine), suppress CNS functions, so their joint use potentiates the effects of each.
17	During the release of diprazine antihistamine, which is intended for the patient for the purpose of symptomatic treatment of allergy, the provisor should warn the patient that no alcohol can be consumed while using this drug because:	<i>A * The CNS inhibitory action is potentiated B Potentially irritating effect of the drug on the gastric mucosa C There may be a sharp rise in blood pressure D Possible development of hepatotoxic effect E Possible increase in allergy symptoms</i>	Diprazine, like other H1-histaminoblockers, penetrates the BBB and inhibits CNS functions. Sharing them with alcohol increases the risk of suppression by potentiating the effects.
18	To continue and increase the local anesthetizing activity of novocaine, as well as to reduce the risk of bleeding during the operation of tooth extraction, the dentist used a drug from the group of adrenomimetics. Name this drug:	<i>A * Adrenaline hydrochloride B Salbutamol C Izadrine D Proserin E Anapriline</i>	Non-selective direct adrenomimetics from these drugs include adrenaline hydrochloride. It causes vasoconstriction and is used in conjunction with local anesthetics to address the related problems.
19	A 65-year-old patient with chronic heart failure regularly receives furosemide 40 mg on an empty stomach 3 times a week. Due to community-acquired pneumonia, the doctor prescribed combination pharmacotherapy. After 3 days the patient began to lose hearing. What is the name of the medicine that causes deafness when interacting with furosemide:	<i>A * Amikacin B Linex C Tavegil D Nystatin E Potassium iodide solution</i>	Aminoglycosides (amikacin and others) when interacting with loop diuretics (furosemide) increase the risk of ototoxicity because they have a similar mechanism to this side effect. This combination of medicines is contraindicated.
20.	A patient receiving an indirect anticoagulant warfarin used acetylsalicylic acid to increase body temperature. Such a combination is dangerous because it increases	<i>A * Bleeding B Osteoporosis C Neurotoxicity</i>	Indirect anticoagulant (warfarin) and acetylsalicylic acid are

	the risk of:	<b>D Cardiotoxicity</b> <b>E Dysbiosis</b>	antithrombotic agents, so their combined use increases the risk of bleeding.
21.	The patient of 74 years was prescribed long-term administration of furosemide for the treatment of chronic heart failure. What drug is advisable to prescribe it to prevent hypokalemia?	<b>A * Asparkam</b> <b>B Trimetazidine</b> <b>C Nifedipine</b> <b>D Corvaltab</b> <b>E Verapamil</b>	Asparkam contains potassium and magnesium ions. Given that furosemide contributes to their loss, the use of aspartame is appropriate.
22.	A 67-year-old patient with chronic heart failure is receiving digoxin. To reduce the side effect of digoxin, the doctor advised to combine it with the following drug:	<b>A * Panangin</b> <b>B Calcium gluconate</b> <b>C Euphiline</b> <b>D Dichlorothiazide</b> <b>E Calcium chloride</b>	Cardiac glycosides reduce potassium levels, so potassium preparations are prescribed in conjunction with them.
23.	A 68-year-old patient has been using furosemide for a long time to treat heart failure. Specify a remedy for the prevention of hypokalemia when taking furosemide:	<b>A * Panangin</b> <b>B ATP-long</b> <b>C Mildronate</b> <b>D Trimetazidine</b> <b>E Sustak Fort</b>	Furosemide is a diuretic that removes potassium. Therefore, the use of potassium with it (pan angina).
24.	The consultant doctor told the patient about the possible side effect of metronidazole, which is manifested on the background of alcohol consumption. Specify the mechanism of this phenomenon:	<b>A * Blocking of the enzyme alcohol dehydrogenase</b> <b>B Activation of the enzyme alcohol dehydrogenase</b> <b>C Acetylcholinesterase enzyme blocking</b> <b>D Activation of the enzyme acetylcholinesterase</b> <b>E Activation of the enzyme glucose-6-phosphate dehydrogenase</b>	Metronidazole and other nitroimidazole derivatives have a side-tetar-like effect that is seen against the background of alcohol consumption and is associated with inhibition of the activity of the alcohol dehydrogenase enzyme.
25.	Atropine sulfate was used in the poisoning of organophosphorus compounds. What phenomenon underlies the antidote action?	<b>A * Antagonism</b> <b>B Synergism</b> <b>C Addictive</b> <b>D Chemical incompatibility</b> <b>E Potentiation</b>	FOS bind cholinesterase, which destroys acetylcholine, which is accompanied by increased activity. Atropine is an M-cholin blocker and thus blocks the action of acetylcholine and can be used as an antagonist for FOS intoxication.
26.	The patient went to the pharmacy with a request to advise what drugs he should take to prevent furosemide side effects:	<b>A * Potassium</b> <b>B Sodium</b> <b>C Magnesium</b> <b>D Iron</b> <b>E Calcium</b>	Furosemide causes hypokalemia, so it is used with potassium preparations (asparcomas, panangin).
27.	Which drug belonging to the group of laxatives CAN NOT be prescribed for poisoning with CNS suppressants?	<b>A * Magnesium sulfate</b> <b>B Sodium sulfate</b> <b>C Vaseline oil</b> <b>D Bisacodyl</b> <b>E Gutalax</b>	Magnesium sulfate, when interacted with CNS suppressants, increases the risk of neurotoxicity.
28.	Releasing the antacid and tablets of the drug ofloxacin, the pharmacist warned about the need to withstand the	<b>A * Reduces the absorption of ofloxacin</b>	Antacid agents have an additional film-

	two-hour interval with the use of these drugs, because their compatible intake:	<b>B Increases the risk of dysbiosis</b> <b>C Increases the absorption of ofloxacin</b> <b>D Increases the effectiveness of antacids</b> <b>E Reduces the effectiveness of antacids</b>	forming effect on the gastric mucosa and thus slow down the absorption of other drugs, which requires an interval between their use.
29.	The patient with arterial hypertension receiving captopril was prescribed potassium diuretic spironolactone. What complication of therapy can this combination lead to?	<b>A * Hyperkalemia</b> <b>B Hyponatremia</b> <b>C Hiponatriemia</b> <b>D Hypocalcaemia</b> <b>E Hypoglycemia</b>	ACE inhibitors (captopril and others) have a possible side effect - hyperkalemia. Therefore, their combined use with potassium-sparing diuretics is undesirable.
30.	The doctor prescribed the patient for treatment with an antibiotic for oral administration and an antacid for eliminating the symptoms of heartburn. What is the possible result of drug interaction while using it simultaneously?	<b>A * Impairment of antibiotic absorption</b> <b>B Mutual reinforcement</b> <b>C Inhibition of liver microsomal enzymes</b> <b>D Relative overdose</b> <b>E Acceleration of metabolism and excretion</b>	Antacids due to their film-forming activity reduce the absorption of other agents that are prescribed in conjunction with them. To prevent this requires a two-hour interval between their reception.
31	Which pharmacological group is forbidden to combine with expectorants?	<b>A * Antitussive drugs</b> <b>B Decongestants</b> <b>C Antibacterial drugs</b> <b>D Mucolytics</b> <b>E Multivitamins</b>	Antitussive agents suppress the cough center in the CNS - this is their mechanism of action. Thus, they reduce the therapeutic effect of expectorants.

### Topic 10. Pharmaceutical care

<b>№</b>	<b>Test of booklets "Step-2"</b>	<b>Distractors (A-E)</b>	<b>Explanation</b>
1	A pregnant woman with symptoms of acute rhinitis turned to the pharmacy. Recommend the safest remedy for symptomatic treatment of rhinitis:	<b>A * Saline solutions based on iso- and hypertonic sodium chloride solutions</b> <b>B Drugs cromoglycic acid</b> <b>C Beclomethasone preparations</b> <b>D Xylometazoline preparations</b> <b>E Preparations based on essential oils</b>	From the above answers, the first is correct, because it is a pregnant woman - a special condition in which safety must first and foremost.
2	What is the duration of the use of vasoconstrictor agents for the symptomatic treatment of rhinitis?	<b>A * 5-7 days</b> <b>B 5 weeks</b> <b>C 1 month</b> <b>D 3 weeks</b> <b>E 2 weeks</b>	To prevent the development of addictive decongestants (vasoconstrictors) are used locally for no more than a week.
3	Specify a non-steroidal anti-inflammatory drug that can be used in hyperthermic syndrome in children and pregnant women:	<b>A * Paracetamol</b> <b>B Acetylsalicylic acid</b> <b>C Rofecoxib</b>	The lowest risk of side effects in these categories of patients

		<i>D Nimesulide</i> <i>E Sodium diclofenac</i>	was noted precisely with the use of paracetamol.
4	Diabetes mellitus introduced SOB to insulin, after which it developed a weakness. The patient went to the pharmacy and sought help. The pharmacy was knocked unconscious and convulsions arose. What should you bring in?	<i>A * Glucose</i> <i>B Glibenclamide</i> <i>C Metformin</i> <i>D Dobutamine</i> <i>E Insulin</i>	In the presence of severe symptoms of insulin overdose indicated in this test, intravenous administration of glucose solution (40-50%) is required.
5	Who is responsible for the patient's health in the practice of self-care?	<i>A * Patient</i> <i>B Pharmacist</i> <i>C The company-manufacturer of the drug</i> <i>D The manager of an entrepreneurial structure that has a retail point of sale for these drugs</i> <i>E Doctor</i>	According to the principles of responsible self-medication, the patient is primarily responsible for his condition.
6	A patient with diabetes mellitus experienced hypoglycemia after an overdose of insulin. What are the first signs of hypoglycemia?	<i>A * To give the patient to eat a lump of sugar, drink warm sweet tea</i> <i>B Sublingual nitroglycerin</i> <i>C Perform insulin injection</i> <i>D Introduce 0.1% subcutaneous adrenaline solution</i> <i>E Introduction of caffeine intramuscularly</i>	The state of hypoglycemia after an overdose of insulin is treated by prescribing something sweet to the patient. These rules teach patients, a pharmacist and pharmacist should know.
7	Sick for 45 years, complains of wet cough. Suffers from chronic bronchitis for over 20 years. Smoke. Suggest a mucolytic drug that would help improve sputum and surfactant formation:	<i>A * Ambroxol</i> <i>B Preparations of thermopsis</i> <i>C Potassium iodide</i> <i>D Licorice root</i> <i>E Proteolytic enzymes</i>	Ambroxol is also a sputum thinner, mucolytic effect, and stimulates the synthesis of an endogenous substance, a surfactant that has a bronchoprotective effect.
8	A 24 year-old pregnant woman complains of a headache that occurred after a stressful situation. What is the drug of choice in this case?	<i>A*Paracetamol</i> <i>BMetamizole sodium</i> <i>CNaproxen</i> <i>DAcetylsalicylic acid</i> <i>EIndomethacin</i>	Paracetamol is the safest drug in this case for the fetus.
9.	A 43-year-old woman complains of heartburn after eating spicy foods. What would be the drug of choice for symptomatic treatment in this case?	<i>A*Antacid</i> <i>BSedative</i> <i>CAnalgesic</i> <i>DAntispasmodic</i> <i>EEnzymatic</i>	Antacids neutralize hydrochloric acid and are used for the symptomatic treatment of heartburn.
10.	What medicine can be used to relieve muscle pain in a 10-year-old boy?	<i>A*Ibuprofen</i> <i>BDiclofenac</i> <i>CNaproxen</i> <i>DNimesulide</i> <i>EAcetylsalicylic acid</i>	Of the listed drugs, Ibuprofen is the most effective and safe for use in children.
11.	A woman with 1 diabetes mellitus has developed first signs of hypoglycemia after an insulin injection. What urgent measures should be taken in this case?	<i>A*Offer the patient a cup of warm sweetened tea</i> <i>BMake a subcutaneous insulin injection</i>	The patient developed a hypoglycemic condition because he did not eat after an insulin injection. First

		<i>CMake a subcutaneous adrenaline injection</i> <i>DMake an intramuscular injection of caffeine</i> <i>EGive nitroglycerine sublingually</i>	aid is to take something sweet.
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