1	Pharmacology is dealing with:	a. mechanism of drug action	b. fate of drug in organism	c. with relationship dose - effect	d. with research and preparation of drug dosage forms
2	Part of pharmacology is:	a. pharmacokinetic	c. pharmacogenetic	c. partial part of toxicology	d. galenic
3	Clinical pharmacology:	a. increases the rationality of pharmacotherapy	b. increases the safety of pharmacotherapy	c. provides new knowledge from pharmacotherapy	d. analyzes and controls pharmaceutical preparations
4	Treatment to alleviate the symptoms of the disease is:	a. causal	b. substituent	c. symptomatic	d. prophylactic
5	The Pharmacopoeia is:	a. list of medicines sold at our country	b. a list of medicines and a summary of regulations on their quality, control, storage and dispensing	c. list of medicines and medicinal products	d. legal norm
6	Pharmacopoeia:	a. is law about drugs	b. there is no Pharmacopoeia in EU	c. is a set of standards on drug development, manufacture and evaluation	d. only applies to pharmacists
7	Pharmacogenetics evaluates:	a. history of different treatments	b. influence of drugs on hereditary properties of organism and vice versa	c. relationship of drug administration to developmental disorders	d. genetic polymorphism
8	The preclinical evaluation of the drug includes:	a. evidence of efficacy in pharmacodynamic studies	b. animal toxicology studies	c. studies on volunteers	d. teratogenicity tests
9	For EBM applies:	a. brings evidence of efficacy and safety from large clinical trials	b. does not provide evidence of efficacy and safety from large clinical trials	c. relevant statistical methods are applied	d. the results are used to make recommendations for practice
10	Clinical evaluation of new drugs is performed in:	a. only in one phase (first administration to human)	b. in two phases (indicative clinical trial)	c. in three phases (extended clinical trial)	d. in four phases, the last phase of which we also call the "post-registration evaluation"
11	The drug is evaluated based on:	a. clinical controlled trials	b. observational studies	c. mainly through personal experience	d. results of mortality studies
12	Clinical evaluation of new drugs has:	a. 4 phases	b. 3 phases	c. 5 phases	d. 6 phases

13	GCP means:	a. good laboratory practice	b. good clinical practice	c. good manufacturing practice	d. good pharmacovigilance practice
14	Randomization:	a. uses incidental selection	b. seldomly is used in clinical trials	c. is used to assign participants in clinical trials to individual groups	d. prevents systematic error
15	If the study is controlled:	a. the new drug is compared to placebo	b. the new drug is compared to the worst available treatment	c. the new drug is compared to the best available treatment	d. neither option is correct
16	Blinding of clinical trial:	a. is often used	b. is rarely used	c. includes a double-blind study	d. includes a triple-blind study
17	The drug dosage forms are:	a. ointments	b. vaseline	c. suppositories	d. oleum cacao
18	Solid drug dosage forms include:	a. suppositories	b. tablets	c. patches	d. coated tablets
19	Semi-solid drug dosage forms include:	a. ointments	b. capsules	c. patches	d. suppositories
20	Liquid drug dosage forms include:	a. syrups	b. creams	c. injections	d. infusions
21	Gaseous drug dosage forms include:	a. aerosols	b. gels	c. foams	d. tablets
22	Enteric coated tablets:	a. protect the drug from stomach acid	b. they are preferably absorbed from the stomach	c. protect the stomach from local irritation	d. they dissolve in an alkaline environment
23	Excipients:	a. have a therapeutic effect	b. make it possible to create a medicament	c. can improve the quality of the medicament	d. do not affect bioavailability
24	Excipients:	a. have a pharmacodynamic effect	b. do not affect bioavailability	c. make it possible to produce a pharmaceutical dosage form	d. they are used only in the preparation of enteral drug dosage forms
25	Generic drug:	a. is a biologically equivalent copy of the original product without patent protection	b. is a biologically equivalent copy of the original product after its end of patent protection	c. it may not have the same composition of active substances as the original preparation	d. it must be bioequivalent to the original product
26	Generic drug is:	a. copy of medicament protected by patent	b. genetically engineered drug	c. international name of pharmacologically active substances	d. drug affecting genome

27	Generic name:	a. is the internationally used name of the drug	b. enables uniform worldwide terminology for substances	c. is the chemical name of the drug	d. expresses the exact chemical structure of the drug
28	External factors affecting the effect of drugs include:	a. size of the dose	b. use of concomitant drugs	c. pathological condition	d. route of administration
29	Internal factors affecting the effect of drugs include:	a. size of the dose	b. use of concomitant drugs	c. pathological condition	d. age of the patient
30	Tachyphylaxis is:	a. increased response after repeated drug administration	b. excessive response after the first dose	c. decreased response after repeated administration	d. extremely fast response to the drug
31	Partial agonist:	a. has an intrinsic activity of less than 1	b. has an intrinsic activity greater than 0	c. has a higher effect than a full agonist	d. is the same as a dualist
32	The affinity is:	a. complexing of drug molecules with receptor molecules	b. drug penetration to the receptor	c. ability to induce functional changes at the receptor	d. non-specific property of the medicament
33	A drug that has an affinity without intrinsic activity:	a. is not active in itself	b. has an antagonistic effect	c. prevents the action of a drug having an agonistic effect	d. it inhibits a receptor against a drug that has intrinsic activity but has no affinity
34	Competitive inhibition is:	a. reversible drug receptor blockade	b. competition of two substances for receptor binding	c. reversible receptor blockade by two substances simultaneously	d. irreversible blockade of the receptor by two drugs
35	Incompatibility is the interaction between drug molecules:	a. at receptors	b. during elimination	c. during second phase of metabolism	d. before entering the organism
36	Pharmacokinetics deals with:	a. drug resorption	b. drug distribution	c. effects of drugs at receptors	d. adverse drug reactions
37	Therapeutic drug monitoring:	a. makes pharmacotherapy more effective	b. serves for statistical purposes of the Ministry of Health of the Slovak Republic	c. contributes to individualised therapy	d. it serves for control purposes of a new insurance company
38	Fetal drug concentration depends on:	a. flow through uterine vessels	b. physicochemical properties of the applied drug	c. placental functional status	d. size of placental blood flow especially in the second trimester of pregnancy

39	The therapeutic index is:	a. ratio between toxic dose and therapeutic dose	b. range between minimum and maximum therapeutic dose	c. list of drugs according to therapeutic indications	d. drug success statistics
40	The therapeutic range is:	a. toxicity to therapeutic efficacy ratio	b. difference between therapeutic and toxic drug dose	c. frequency of pharmacological effects	d. the range of indications in which the drug may be used
41	Drug cumulation is:	a. potentiating drug action	b. gradual lowering of the effect upon repeated administration	c. summation of the effect of different medicaments	d. accumulation of the drug in the body
42	Enteral administration:	a. requires solid drug dosage form	b. involves intramuscular administration	c. is advantageous in terms of compliance	d. avoids the "first pass" effect
43	Parenteral administration means:	a. drug enters the organism through the gastrointestinal tract	b. includes administration through inhalation	c. the fastest onset of action is after i.v. administration	d. the drug undergoes significant biotransformatio n in the liver
44	Absorption of drugs from the stomach:	a. is not affected by antacids	b. is more intense if the drug is more basic	c. is most often passive diffusion	d. is decreased in the presence of food
45	Mark the correct statement:	a. in the case of buccal and sublingual administration of drugs, the "first pass" effect is eliminated	b. the most drugs are absorbed in the stomach	c. the most drugs are absorbed in the small intestine	d. drugs are absorbed mainly in the large intestine
46	Drugs administered per rectum:	a. have a lower effect than peroral, because they are more strongly metabolised by liver	b. they must be administered at a lower dose than peroral	c. can cause proctitis	d. are beneficial in patients with nausea and vomiting
47	In i.v. administration:	a. the solution must be isotonic with plasma	b. no more than 50 ml of solution can be administered	c. the solution is generally neutral	d. its advantage is rapid onset of action
48	Bioavailability:	a. is the fraction of unchanged drug that has entered the systemic circulation	b. is the fraction of the drug that was eliminated during "first pass" effect	c. is the penetration of the drug to the receptor	d. does not depend on the route of administration
49	Through membranes easily penetrate:	a. ionised substances	b. non-ionised substances	c. lipophilic substances	d. large molecules
50	Well absorbed through the gastric mucosa are:	a. fat-soluble substances	b. weak bases	c. weak acids	d. non-ionized substances

51	Mark the correct statement:	a. unionized drugs are liposolubile and can diffuse through membrane	b. the acid environment of the stomach slows the absorption of acetylsalicylic acid	c. polar drugs pass through membranes more easily	d. facilitated diffusion places high demands on energy supply
52	Biotransformation takes place:	a. especially in the liver	b. never in kidneys	c. also in the lungs	d. even in the skin
53	Phenomenon of "first pass" effect in the liver:	a. determines plasma protein binding	b. limits the bioavailability of p.o. administered drugs	c. significantly influences treatment approach	d. it has no clinical significance
54	Cytochrome P450:	a. is part of mixed oxidases	b. is specific drug metabolizing enzyme	c. is also present in erythrocytes	d. is involved in the metabolism of endogenous substances
55	Prodrug is:	a. inactive metabolite	b. end product of biotransformation	c. substance that becomes active in the body	d. a substance which is excreted unchanged from the body
56	The drug usually during metabolism changes to:	a. active metabolite	b. inactive metabolite	c. metabolite more easily eliminated from the body	c. metabolite more difficult to eliminate from the body
57	Drug metabolism may produce:	a. active metabolite	b. inactive metabolite	c. toxic metabolite	d. only inactive metabolite
58	CYP450 inducers include:	a. rifampicin	b. fluconazole	c. benzodiazepines	d. isoniazid
59	CYP450 inducers include:	a. SSRI	b. St John's wort	c. grapefruit juice	d. smoking tobacco
60	Enzyme inducers:	a. may increase the effect of other drugs	b. may reduce the effect of coumarins	c. may reduce the effect of other drugs	c. may reduce the effect of steroid hormones
61	CYP450 inhibitors include:	a. rifampicin	b. fluconazole	c. benzodiazepines	d. isoniazid
62	CYP450 inhibitors include:	a. SSRI	b. St John's wort	c. grapefruit juice	d. smoking tobacco
63	Enzyme inhibitors:	a. can increase the effect of other drugs	b. can reduce the risk of adverse effects	c. may reduce the effect of other drugs	d. they may increase the risk of adverse effects
64	Drug protein binding:	a. is an irreversible drug protein complex	b. does not dependent on the number of protein binding sites	c. depends on drug affinity for protein	d. high protein binding reduces the therapeutic efficacy of the drug
65	Protein-bound part of the drug:	a. easily passes into tissues	b. is temporarily inactive	c. is more rapidly excreted by the kidneys	d. it may be displaced from the binding site by another drug

66	The volume of distribution is calculated:	a. based on elimination rate	b. from plasma concentration and amount of substance administered	c. from protein binding	d. from the space in which the drug is dispersed
67	Drugs may be excreted from the body through:	a. kidney	b. faeces	c. sweat	d. saliva
68	Biologic half-life:	a. defines the time from drug administration to its excretion	b. the time interval needed for blood drug level decrease to 50%	c. drug degradation time	d. half the dose of drug that has penetrated the tissues
69	How much T1/2 are required for decrease of plasma drug levels below 1%:	a. 2	b. 5	c. 7	d. 9
70	The irrational combination and prescription of many drugs is named:	a. homeopathy	b. actinotherapy	c. polypragmasy	d. pulse therapy
71	Interactions may occur between:	a. drug - drug	b. drug - food	c. drug - nutritional supplement	d. drug - homeopathic medicine
72	Foods that cause frequent drug interactions include:	a. garlic	b. grapefruit juice	c. milk	d. vitamin K - rich vegetables
73	The most drug interactions occur at the level of:	a. absorption	b. distribution	c. metabolism	c. excretion
74	Drug interaction:	a. is a change in the effect of a drug when another drug is administered	b. is decrease or increase in the effect of the drug	c. it can only occur at the pharmacodynamic level	d. it cannot occur at the receptor level
75	Combinations of drugs are used in therapy of:	a. hypertension	b. diabetes mellitus	b. dislipidemia	d. infections
76	Pharmacovigilance:	a. deals with benefit vs. risk ratio	b. its aim is not to find a rare adverse drug reactions	c. examines the safety of the drug	d. monitors newly authorized medicines
77	Adverse drug reactions should be monitored in clinical trials:	a. also in the fourth phase	b. in no phase	c. only in the third phase	d. in all phases
78	The following applies to Type A ADRs:	a. are expected	b. are unexpected	c. are predictable	d. are unpredictable

79	Type B ADRs:	a. are easily predictable	b. depend on dose size	c. do not depend on the dose size applied	d. are rare
80	The following applies to Type B ADRs:	a. are expected	b. are unexpected	c. are predictable	d. are unpredictable
81	The following applies to Type C ADRs:	a. occur usually after prolonged use	b. are unexpected	c. are predictable	d. they can be verified experimentally
82	The rebound phenomenon must be considered during administration of:	a. statins	b. betablockers	c. opioids	d. nitrates
83	Activated charcoal:	a. belongs to intestinal adsorbents	b. is used in diarrheal diseases	c. is used to prevent the absorption of toxins	d. is used in intoxications
84	N-acetylcysteine is an antidote of:	a. paracetamol	b. ibuprofen	c. ASA	d. coxibs
85	The opioid antidote is:	a. have no antidote	b. only supportive therapy	c. naloxone	d. flumazenil
86	The antidote for benzodiazepines is:	a. naloxone	b. flumazenil	c. have no antidote	d. only supportive therapy
87	Silibinin is:	a. hepatoprotective	b. hepatotoxic	c. extract of the Milk thistle	d. it is used in intoxication with the Amanitina phalloides
88	The antiote of organophosphates is:	a. atropine	b. the response to the treatment of intoxication with organophosphates is predictable	c. obidoxime	d. the response to the treatment of intoxication with organophosphates is unpredictable
89	Miosis is typical of intoxication with:	a. cocaine	b. methamphetamine	c. heroin	d. LSD
90	Addiction:	a. is a patological dependence on repeated intake of substance	b. is only by psychical dependence	c. may be accompanied by tolerance	d. does not occur after administration of anxiolytics
91	Adrenaline:	a. at high doses acts as an alpha-agonist	b. at high doses acts as a beta-agonist	c. at low doses acts as a beta-agonist	d. at low doses acts as an alpha-agonist
92	Adrenaline:	a. is an α- and β-receptor agonist	b. is used in cardiac arrest	c. is used in ventricular fibrillation	d. is used in anaphylactic shock
93	High-dose adrenaline:	a. causes vasoconstriction	b. increases blood pressure	c. causes vasodilation	d. lowers blood pressure

94	Adrenaline at low doses:	a. increases heart rate	b. decreases heart rate	c. increases heart contractility	d. reduces the contractility of the heart
95	Noradrenaline:	a. potent agonist at alpha1-, alpha2- and beta1-receptors	b. always increases systolic BP	c. preferably used in the treatment of septic shock	d. potent agonist at beta2-receptors
96	Noradrenaline:	a. is a mediator in ganglia of vegetative nervous system	b. does not cause a change in heart rate	c. is a mediator at the postganglionic endings of the sympathetic nervous system	d. causes tachycardia
97	Dopamine:	a. acts as an alpha agonist at high doses	b. in high doses causes vasoconstriction	c. it acts as a beta- and D1-agonist at high doses	d. in high doses increases cardiac output
98	Dopamine:	a. acts as an alpha agonist at low doses	b. in low doses causes vasoconstriction	c. it acts as a beta- and D1-agonist at low doses	d. in low doses increases cardiac output
99	Phenylephrine:	a. is a potent alpha1-agonist	b. causes vasodilation	c. causes vasoconstriction in vessels of nasal mucosa	d. causes mydriasis
100	α1-sympatholytics include:	a. terazosin	b. bisoprolol	c. tamsulosin	d. phenylephrine
101	Stimulation of β2-adrenergic receptors results in:	a. vasodilation	b. bronchodilation	c. vasoconstriction	d. reduction of uterine contractility
102	β2-sympathomimetics include:	a. sildenafil	b. salbutamol	c. felodipine	d. vilanterol
103	Beta1 agonists:	a. decrease heart rate	b. increase heart rate	c. dilate bronchi	d. increase myocardial contractility
104	Beta-sympatholytics:	a. are selective and non-selective	b. may have intrinsic sympathomimetic activity	c. β1-selective substances are used in therapy	d. β2-selective substances are used in therapy
105	Beta-sympatholytics are effective in the therapy of:	a. bradyarrhythmias	b. asthma bronchiale	c. angina pectoris	d. myocardial infarction
106	Acetylcholine is:	a. is a mediator in the ganglia of the vegetative nervous system	b. acts only on muscarinic receptors	c. is a mediator on the neuromuscular junction	d. is a mediator in the CNS
107	Direct parasympathomimetics include:	a. metacholine	b. scopolamine	c. pilocarpine	d. betanechol

108	Pilocarpine:	a. causes miosis	b. increases salivation	c. causes decrease in intraocular pressure	d. reduces salivation
109	Indirect parasympathomimetics:	a. activate acetylcholinesterase	b. inhibit acetylcholinesterase	c. acetylcholine esterase is inhibited for short or long term	d. they activate acetylcholinesterase for short or long term
110	Indirect parasympathomimetics include:	a. pyridostigmine	b. neostigmine	c. organophosphates	d. none of these substances
111	Long-term acetylcholinesterase inhibitors include:	a. physostigmine	b. organophosphate insecticides	c. atropine	d. obidoxime
112	Parasympatholytics are therapeutically used:	a. as spasmolytics of the GIT and the uropoietic system	b. as miotics	c. as mydriatics	d. as bronchodilators
113	Atropine:	a. is a parasympatholytic	b. is a parasympathomimetic	c. induces mydriasis	d. induces miosis
114	Bronchodilator effect have:	a. beta1-agonist	b. beta2-sympathomimetic salbutamol	c. muscarinic receptor antagonists	d. acetylcholine
115	Plants showing parasympathomimetic properties:	a. datura	b. Pilokarpus jaborandi	c. Atropa belladona	d. Amanita muscaria
116	Plants showing parasympatholytic properties:	a. datura	b. Pilokarpus jaborandi	c. Atropa belladona	d. Amanita muscaria
117	Local anesthetics:	a. attenuate pain perception by reversible blockade of nerve impulses conduction	b. inhibit potassium channels	c. inhibit calcium channels	d. inhibit sodium channels
118	The following applies to cocaine:	a. is sedative	b. is stimulating	c. causes mydriasis	d. causes miosis
119	Indications of local anesthetics include:	a. prevention and therapy of some arrhythmias	b. nerve block	c. dental procedures	d. pain relief
120	Local anesthetics with an ester group include:	a. lidocaine	b. bupivacaine	c. cocaine	d. benzocaine
121	Local anesthetics with an amide group include:	a. lidocaine	b. bupivacaine	c. cocaine	d. benzocaine

122	In general, local anesthetics:	a. they are basic substances which form salts which are readily soluble in water with acids	b. trigger the extinction of action potential	c. their non-ionized bases are lipophobic	d. they bind to the site of action in electroneutral form
123	Vasoconstrictors added to local anesthetics:	a. reduce the toxicity of local anesthetics	b. reduce the effect of anesthetic	c. prolong the effect of anesthetics	d. they are mainly used for anesthesia of the acral areas
124	General anesthetics:	a. have high affinity for lipids	b. are strongly hydrophilic	c. are applied subdurally	d. reduce blood flow in the liver
125	General inhalation anesthetics include:	a. isoflurane	b. propofol	c. sevoflurane	d. ketamine
126	Malignant hyperthermia:	a. is treated with dantrolene	b. characterized is by muscle rigidity and fever	c. may arise in the co-administration of halothane and succinylcholine	d. characterized is by muscle weakness and hypothermia
127	General intravenous anesthetics include:	a. isoflurane	b. propofol	c. sevoflurane	d. ketamine
128	After thiopental administration:	a. the stage of analgesia and excitation is strongly marked	b. there is a rapid loss of consciousness	c. a negative inotropic effect may occur	d. apnea may occur
129	Propofol ADRs include:	a. hypotension	b. hypertension	c. pancreatitis	d. none of these
130	Ketamine ADRs include:	a. hallucinations	b. cardiodepressive effect	c. cardiostimulatory effect	d. respiratory depression
131	Short-acting benzodiazepines:	a. midazolam	b. alprazolam	c. oxazepam	d. diazepam
132	Intermediate-acting benzodiazepines:	a. midazolam	b. alprazolam	c. oxazepam	d. diazepam
133	Long-acting benzodiazepines:	a. midazolam	b. alprazolam	c. oxazepam	d. diazepam
134	The effects of benzodiazepines are antagonized by:	a. diazepam	b. flumazenil	c. GABA	d. pentobarbital
135	Centrally-acting muscle relaxants:	a. reduce skeletal muscle spasms	b. are used as co-analgesics	c. are used under general anesthesia	d. are used in neurology and rheumatology
136	Guaifenesin has following effects:	a. anxiolytic	b. antipyretic	c. muscle relaxant	d. expectorant

137	Centrally acting muscle relaxants include:	a. guaifenesin	b. succinylcholine	c. vecuronium	d. tolperisone
138	Peripherally acting muscle relaxants of curareform type:	a. depolarize neuromuscular plate	b. inhibit calcium release from sarcoplasmic reticulum	c. competitively inhibit the effect of acetylcholine on the neuromuscular plate	d. block the sodium channels of muscle cell membranes
139	Competitive muscle relaxants include:	a. atracurium	b. dantrolene	c. succinylcholine	d. rocuronium
140	The following are used as antidotes for competitive muscle relaxants:	a. acetylcholine administered i.v.	b. short-term acetylcholinesterase inhibitors	c. neostigmine in combination with atropine	d. only neostigmine
141	The following are used as antidotes for depolarizing muscle relaxants:	a. acetylcholine administered i.v.	b. pyridostigmine	c. have no antidote	d. assisted breathing
142	Paracetamol:	a. has a clinically significant anti-inflammatory effect	b. is NSAID	c. is analalgetic-antipyretic	d. it does not have a clinically significant anti-inflammatory effect
143	COX3 inhibiting analgesics include:	a. paracetamol	b. ibuprofen	c. metamizole	d. acetylsalicylic acid (ASA)
144	Nonsteroidal anti-inflammatory drugs (NSAIDs):	a. have an analgesic effect	b. practically do not bind to plasma proteins	c. irritate gastric mucosa	d. inhibit prostaglandin biosynthesis
145	Nonsteroidal anti-inflammatory drugs (NSAIDs) include:	a. indomethacin	b. ibuprofén	c. hydrocortisone	d. acetylsalicylic acid (ASA)
146	COX2 inhibiting NSAIDs have properties:	a. analgesic	b. antipyretic	c. antiemetic	d. antiinflammatory effect
147	ASA depending on dosage:	a. inhibits COX1 and COX2	b. inhibits the release of norepinephrine from the presynaptic endings of the sympathetic system	c. decreases synthesis of vasodilator prostaglandins in endothelium	d. inhibits TXA2 synthesis

148	ASA:	a. decreases elevated body temperature	b. at higher doses inhibits only COX1	c. significantly reduces normal body temperature	d. at higher doses decreases both COX1 and COX2 activity
149	Contraindications of ASA administration:	a. hemorrhagic diathesis	b. gastric and duodenal ulcer	c. allergy to salicylates	d. insomnia
150	Which nonsteroidal anti-inflammatory drugs preferentially inhibit COX2:	a. celekoxib	b. ibuprofen	c. meloxikam	d. nimesulid
151	Tramadol:	a. is NSAID	b. also acts on opioid receptors	c. significantly influences the respiratory center	d. it also acts through affecting sympathetic receptors
152	Opioid effects include:	a. euphoria	b. sedation	c. psychostimulat effect	d. antitussive effect
153	Opioid ADRs include:	a. mydriasis	b. miosis	c. constipation	d. diarrhea
154	Strong opioids include:	a. tramadol	b. morphine	c. fentanyl	d. codeine
155	Morphine:	a. after p.o. administration has 90% bioavailability	b. relaxes Odi sphincter	c. decreases gland secretion	d. has irritant effect on n. oculomotorius nucleus
156	Codeine:	a. is an antitussive	b. can cause drug dependence	c. potentiates the effect of analgesics-antipyretics	d. has a bronchodilator effect
157	Common antitussives include:	a. morphine	b. pentoxyverine	c. butamirate	d. dropropizine
158	Expectorants:	a. are substances that enhance the production and transport of bronchial secretion	b. include all centrally acting muscle relaxants	c. from the centrally acting muscle relaxants, only guaifenesin belongs to them	d. they are also combined with bronchodilators
159	Mucolytics / expectorants include:	a. N-acetylcysteine	b. guaifenesin	c. pentoxyverine	d. bromhexine
160	Ambroxol:	a. is used to treat productive cough	b. is used to treat dry irritant cough	c. belongs to over-the-counter medicaments	d. is a prescription-only drug
161	Anti-inflammatory drugs for the treatment of bronchial asthma include:	a. beta2-sympathomimetics	b. inhaled corticoids	c. anticholinergics	d. systemic corticoids

162	Bronchodilators for the treatment of bronchial asthma include:	a. beta2-sympathomimetics	b. inhaled corticoids	c. anticholinergics	d. systemic corticoids
163	SABA:	a. belong to relieveres	b. belong to controllers	c. are used only shortly in acute exacerbations	d. they are used to prevent exacerbations
164	Long-acting beta2-sympathomimetics (LABA) include:	a. fluticasone	b. formoterol	c. indacaterol	d. montelukast
165	LABA:	a. relax smooth airway muscles for a long time	b. relax smooth airway muscles for a short time	c. they must always be co-administered with inhaled corticoids	d. they cannot be co-administered with inhaled corticoids
166	Inhaled anticholinergics:	a. competitively antagonize M1, M2 and M3 receptors	b. increase cholinergic tone	c. tiotropium has a short effect	d. long-acting is umeclidinium
167	Methylxanthines:	a. in particular they have a bronchodilator effect	b. inhibit phosphodiesterase I to IV	c. have a mild anti-inflammatory and immunomodulatory effect	d. do not have frequent adverse effects
168	Aminophylline:	a. is methylxanthine	b. is the drug of first choice for asthma bronchiale	c. may cause diarrhea	d. has diuretic effects
169	Inhaled corticoids (ICS) for the treatment of bronchial asthma:	a. are the basic drugs for the treatment of asthma bronchhiale	b. belong to the most effective anti-inflammatory drugs	c. in bronchial asthma may be used alone	d. they are rarely used
170	ICS for the treatment of bronchial asthma:	a. have a complex anti-inflammatory effect	b. do not restrict airway remodeling	c. reduce the severity and frequency of exacerbations	d. they have many serious adverse effects
171	Common side effects of ICS include:	a. adrenergic suppression	b. higher incidence of osteoporosis	c. oral candidiasis	d. dysphonia
172	Glucocorticoids in the treatment of bronchial asthma:	a. they are usually administered by inhalation	b. in severe acute exacerbations are administered p.o. or i.v.	c. do not affect the mortality and morbidity of patients	d. prolong the life of asthmatics
173	Inhaled corticoids include:	a. methylprednisolone	b. budesonide	c. fluticasone	d. prednisolone
174	Glucocorticoid indications include:	a. inflammation	b. autoimmune diseases	c. anaphylaxis	d. asthma

175	The following applies to glucocorticoids:	a. they are formed in zona glomerulosa	b. they are formed in zone fasciculata	c. major glucocorticoid = cortisol	d. can act for more than 36 hours
176	Glucocorticoids:	a. have an anti-inflammatory effect	b. have an immunosuppressive effect	c. reduce gastric juice secretion	d. help in wound healing
177	Short-acting glucocorticoids include:	a. prednisone	b. triamcinolone	c. dexamethasone	d. hydrocortisone
178	Antileucotriens:	a. are relievers	b. complement the anti-inflammatory effect of ICS	c. include montelukast	d. include aminophylline
179	Antileucotriens:	a.selectively inhibit the effects of LTC4, D4, E4	b. inhibit lipooxygenase	c. can be combined with inhaled corticosteroids	d. are effective in aspirin sensitive asthma
180	Montelukast:	a. in particular it has an anti-inflammatory effect	b. is in the dosage form of tablets	c. is not suitable for children	d. its anti-inflammatory effect is lower than that of ICS
181	Omalizumab:	a. is an anti-IgE monoclonal antibody	b. has a strong anti-inflammatory effect	c. is administered at mild asthma	d. it is effective especially in allergy-related asthma
182	Omalizumab:	a. is indicated for the treatment of severe urticaria	b. is indicated for the treatment of severe persistent bronchial asthma	c. is administered s.c.	d. is administered p.o.
183	In biological treatment of bronchial asthma are used:	a. infliximab	b. adalimumab	c. omalizumab	d. mepolizumab
184	H1-antihistamines:	a. are cetirizine and levocetirizine	b. are administered in allergic conditions	c. are cimetidine and ranitidine	d. they are given in chronic urticaria
185	The first-generation H1-antihistamines include:	a. loratadine	b. bisulepine	c. desloratadine	d. promethazine
186	Promethazine has:	a. sedative effects	b. anticholinergic effects	c. antihistaminic effects	d. psychostimulant effects
187	The first-generation H1-antihistamines:	a. easily pass through the blood-brain barrier (HEB)	b. do not pass through HEB	c. have sedative side effects	d. they do not have sedative side effects
188	The second-generation H1-antihistamines:	a. easily pass through the blood-brain barrier (HEB)	b. do not pass through HEB	c. have sedative side effects	d. they do not have sedative side effects
189	The second-generation H1-antihistamines include:	a. rupatadine	b. bilastine	c. dimethindene	d. moxastine

190	The main indications of the second-generation H1-antihistamines:	a. allergic skin manifestations	b. viral and bacterial rhinopharyngitis	c. allergic rhinitis	d. allergic conjunctivitis
191	The following drugs are used to treat gastric and duodenal ulcers:	a. corticosteroids	b. NSAIDs	c. ranitidine	d. omeprazole
192	The following drug combinations are used to eradicate Helicobacter pylori:	a. IPP + bismuth salts + metronidazole + doxycycline	b. proton pump inhibitor (IPP) + clarythromycin + amoxicillin	c. only clarytromycin + amoxicillin	d. only proton pump inhibitor + H2-antihistaminic drug
193	Helicobacter pylori can be diagnosed through:	a. cultivation	b. urease test	c. acetylcholine test	d. by determining specific antibodies
194	Omeprazole:	a. blocks H2-receptors	b. inhibits the proton pump	c. has a high interaction potential	c. has a low interaction potential
195	H2-antihistamines include:	a. ranitidine	b. cetirizine	c. famotidine	d. loratadine
196	H2-antihistamines:	a. decrease gastric secretion of HCl	b. reduce HCl secretion less than IPP	c. are used in allergic conditions	d. they are used in motion sickness and parkinsonism
197	Ranitidine:	a. has less adverse effects than cimetidine	b. is H1-antihistaminic drug	c. has more adverse effects than cimetidine	d. is H2-antihistaminic drug
198	Antacids:	a. reduce gastric acidity	b. increase pepsin activity	c. relieve stomach pain	d. increase drug absorption
199	Antacids:	a. are divided into adsorbent and reactive	b. reactive antacids produce reactive hypersecretion and alkalosis	c. sodium bicarbonate is an adsorbent antacid	d. sodium bicarbonate is a reactive antacid
200	Intestinal adsorbents include:	a. diosmectite	b. ranitidine	c. activated charcoal	d. famotidine
201	Intestinal disinfectants include:	a. loperamide	b. nifuroxazide	c. diosmectite	d. activated charcoal
202	For the treatment of diarrhea we can use:	a. magnesium salts	b. codeine	c. lactulose	d. loperamide
203	As antiemetics we can use:	a. dopamine receptor antagonists	b. opioids	c. H1-receptor antagonists	d. 5-HT3 receptor antagonists

204	In the treatment of vomiting after chemotherapy we can use:	a. ondansetron	b. granisetron	c. aprepitant	d. moxasthine theoclate
205	Prokinetics include:	a. domperidone	b. loperamide	c. metoclopramide	d. itopride
206	Butylscopolamine:	a. has anticholinergic effects	b. has cholinergic effects	c. is a GIT spasmolytic	d. strongly passes into the CNS
207	Mechanism of action of antihypertensives:	a. influence of arterial resistance	a. influence of venous resistance	c. influence of CNS	d. influencing blood volume
208	The following are involved in vascular tone regulation:	a. sympathetic and parasympathetic mediators	b. endothelial secretion	c. angiotensin I	d. bradykinin
209	To first-choice antihypertensives belong:	a. ACEI	b. nitrates	c. diuretics	d. CCB
210	In the treatment of hypertension during pregnancy is used:	a. methyldopa	b. ACEI	c. ARB	d. labetalol
211	Centrally acting antihypertensives include:	a. amlodipine	b. clonidine	c. enalapril	d. moxonidine
212	ACEI:	a. have endothel-protective effects	b. prevent pathological remodeling of the heart	c. have strong EBM evidence on mortality and morbidity in patients with CVS diseases	d. they do not significantly affect the mortality and morbidity of patients with CVS diseases
213	ACEI:	a. are suitable for patients with heart failure	b. are suitable in diabetic patients	c. have an adverse effect on glucose levels	d. have an adverse effect on lipid levels
214	Trandolapril:	a. may cause hypokalaemia	b. belongs to ACEI	c. its contraindication is bilateral renal artery stenosis	d. has renoprotective effects
215	AT1 receptor blockers (ARB):	a. do not cause dry irritant cough	b. have a lower risk of angioneurotic edema than ACEI	c. have a higher risk of angioneurotic edema than ACEI	d. may replace ACEI in case of dry irritant cough
216	Following calcium channel blockers (CCB) can be used as antiarrhythmic agents:	a. verapamil	b. diltiazem	c. amlodipine	d. felodipine

217	Typical ADRs of CCB include:	a. adverse effect on lipid levels	b. perimaleolar edema	c. adverse effect on glucose levels	d. constipation
218	CCB are suitable for the treatment of hypertension in:	a. diabetics	b. patients with metabolic syndrome	c. patients with systolic hypertension	d. patients with peripheral artery disease
219	Nimodipine:	a. is calcium channel blocker	b. mainly affects peripheral circulation	c. mainly affects cerebral circulation	d. is used to treat subarachnoid haemorrhage
220	Thiazide diuretics include:	a. hydrochlorothiazide	b. furosemide	c. amiloride	d. spironolactone
221	Prolonged use of thiazide diuretics may cause:	a. hyperkalaemia	b. deterioration of glucose tolerance	c. gout attack	d. hypokalaemia
222	Thiazide and loop diuretics are preferred in a patiens with:	a. gout	b. heart failure	c. hyponatraemia	d. hypokalaemia
223	Mineralocorticoid receptor antagonists include:	a. spironolactone	b. amiloride	c. eplerenone	d. indapamide
224	Beta-blockers:	a. decrease heart rate	b. increase cardiac contractility	c. have cardiodepressive effects	d. reduce intraocular pressure
225	Beta-blockers:	a. reduce cardiac output	b. increase cardiac output	c. induce bronchoconstriction	d. may increase the risk of hypoglycaemia
226	Administration of β-blockers is contraindicated in:	a. supraventricular tachyarrhythmia	b. angina pectoris	c. bronchial asthma	d. AV block of higher degree
227	Metoprolol is:	a. non-selective beta-blocker	b. selective beta-blocker	c. beta-blocker with ISA	d. beta-blocker without ISA
228	Selective beta-blockers include:	a. metoprolol	b. propranolol	c. bisoprolol	d. atenolol
229	Beta-blockers with a vasodilating effect include:	a. labetalol	b. pindolol	c. carvedilol	d. nebivolol
230	Rilmenidine:	a. belongs to I1 - receptor agonists in CNS	b. is suitable for the treatment of hypertension in diabetics	c. can be combined with other antihypertensive agents	d. belongs to central antihypertensives
231	Arterial vasodilators include:	a. CCB	b. nitrates	c. hydralazines	d. molsidomine
232	Venous vasodilators include:	a. nitroglycerin	b. isosorbide dinitrate	c. molsidomine	d. hydralazines

233	Both arterial and venous vasodilators include:	a. ACEI	b. sodium nitroprusside	c. CCB	d. ARB
234	Substances that reduce myocardial oxygen demand include:	a. beta-blockers	b. CCB	c. statins	d. nitrates
235	Nitrates include:	a. glyceryl trinitrate	b. isosorbide mononitrate	c. isosorbide dinitrate	d. molsidomine
236	Nitrates:	a. do not affect mortality and morbidity of patients	b. relieve pain in acute angina pectoris	c. they cannot be used to prevent angina attacks	d. they can be used to prevent angina attacks
237	Organic nitrates:	a. dilatate mainly venous system	b. dilatate mainly arterial system	c. reduce preload	d. reduce afterload
238	Molsidomine:	a. dilates the venous system	b. has a similar mechanism of action to organic nitrates	b. has a similar mechanism of action to organic nitrates	d. during administration can occur tolerance
239	Antithrombotics include:	a. antiplatelet agents	b. anticoagulants	c. antifibrinolytics	d. fibrinolytics
240	Acetylsalicylic acid at dose100 mg / day:	a. irreversibly inhibits COX1	b. has a protective effect on the gastric mucosa	c. increases level of thromboxane	d. belongs to the basic antiplatelet agents
241	Low dose ASA:	b. is used in secondary prevention of MI	b. is used in primary prevention of MI	c. has analgesic effects	d. inhibits TXA2 synthesis
242	Anticoagulants:	a. heparin has a rapid onset of anticoagulant effect	b. warfarin has an immediate onset of anticoagulant effect	c. the anticoagulant effect of heparin requires antithrombin III	d. coumarin anticoagulants are safe throughout pregnancy
243	Warfarin:	a. blocks carboxylation of gamma-glutamic residues of factors II., VII., IX., X.	b. is a vitamin K antagonist	c. is effective both in vivo and in vitro	d. is used parenterally
244	Warfarin:	a. coagulation parameters do not need to be monitored during therapy	d. during therapy we monitor Quick prothrombin time	c. aPTT is monitored during therapy	d. we monitor INR during therapy
245	ADRs of warfarin include:	a. teratogenicity	b. skin necrosis	c. dyspepsia	d. bradycardia
246	Direct oral anticoagulants include:	a. dabigatran	b. warfarin	c. apixaban	c. edoxaban
247	Indications of direct oral anticoagulants (DOACs) are:	a. prevention of deep vein thrombosis and	b. prevention of stroke in non-valvular atrial fibrillation	c. treatment of deep vein thrombosis and	d. prevention of ischemic stroke in valvular atrial fibrillation

		pulmonary embolism		pulmonary embolism	
248	Parenteral anticoagulants include:	a. fondaparinux	b. low molecular weight heparins	c. xabans	d. heparin
249	Heparin:	a. is a large negatively charged molecule	b. is ineffective in the absence of AT III	c. its effect starts within a few hours	d. it is produced by extraction from human mast cells
250	Heparin:	a. belongs to the parenteral anticoagulants	b. belongs to oral anticoagulants	c. we use INR d to monitor treatment	d. we use aPTT to monitor treatment
251	The heparin ADRs include:	a. thrombocytopenia	b. osteoporosis	c. alopecia	d. hemorrhage
252	Antidote of heparin:	a. histamine	b. protamine	c. ranitidine	d. vitamin K
253	Low molecular weight heparins (LMWHs):	a. have more adverse effects than heparin	b. have lower effect on factor IIa than heparin	c. aPTT is monitored during therapy	c. during therapy, we usually do not monitor coagulation parameters
254	Advantages of LMWHs:	a. predictable effect	b. have a longer elimination half-life than "classical" heparin	c. rapid onset of action	d. slow onset of effect
255	Fibrinolytics include:	a. alteplase	b. PAMBA	c. tenecteplase	d. streptokinase
256	Mechanism of action of antiarrhythmic drugs:	a. slowing of depolarization	b. blocking of fast Na channel	c. prolonging repolarization by blocking K and Ca channels	d. reduction of sympathetic activity
257	To classify antiarrhythmic drugs, we use the following classification:	a. by Vaughan-Williams	b. we do not use any classification	c. antiarrhythmic drugs are no longer classified	d. classification has 4 classes according to the influence of action potential
258	Amiodarone:	a. has two iodine atoms in the molecule	b. prolongs refractory period and decreases myocardial excitability at atrial, nodal and ventricular levels	c. is used in the treatment of ventricular arrhythmias	d. it is not used in the treatment of ventricular arrhythmias
259	The amiodarone ADRs include:	a. cardiac - symptomatic dose-dependent bradycardia	b. endocrine complications	c. eye complications	d. do not include lung and skin complications
260	Non-glycoside cardiotonics include:	a. amrinone	b. milrinone	c. dobutamine	d. noradrenaline

261	Digoxin:	a. is mainly used in patients with HF and atrial fibrillation with rapid ventricular response	b. is not used in patients with heart failure (HF)	c. is not used in patients with atrial fibrillation	d. its level is monitored to check its effectiveness
262	Digoxin indication:	a. ventricular fibrillation	b. atrial fibrillation with rapid ventricular response	c. bradycardia	d. essential hypertension
263	Atropine:	a. is a parasympatholytic drug	b. is a competitive antagonist of the effect of acetylcholine on muscarinic receptors	c. tachycardia occurs at higher doses after blockage of the vagal effect on the SA node	d. is not spasmolytic drug
264	Hypolipidemics include:	a. substances affecting mainly cholesterol levels	b. statins	c. do not include ezetimibe	d. do not include fibrates
265	Statins:	a. have pleiotropic effects	b. inhibit the enzyme HMG-CoA reductase	c. increase intracellular new cholesterol synthesis	d. decrease LDL concentration
266	Statins:	a. have an anti-inflammatory effect	b. inhibit adhesion of leukocytes, macrophages, platelets to endothelium	c. increase blood viscosity	d. stabilize atherosclerotic plaque, reduce thrombogenicity
267	Statin ADRs include:	a. myopathy	b. does not include neuropathy	c. rhabdomyolysis	d. elevation of liver function tests
268	Ezetimibe:	a. inhibits the absorption of cholesterol in the intestine	b. is not essential in the treatment of dyslipidemia	c. we use it in combination therapy with statins	d. it has no effect on cholesterol metabolism
269	The following applies to fibrates:	a. cause of their mechanism of action they increases the activity of lipoprotein lipase	b. increase lipolysis of TAG and chilomicrons	c. do not affect the metabolism of TAG	d. are not hypolipidemic agents
270	PCSK9 inhibitors:	a. are monoclonal antibodies that inhibit proprotein convertase subtilisin/kexin type 9	b. are not used in the treatment of dyslipidemia	c. in hyperlipidemia, they are currently used as first-line drugs	d. they are used when the patient does not tolerate statins / when we do not reach the target LDL concentration with statin therapy
271	The mechanism of action of psychopharmacons may include:	a. influencing the effect of neurotransmitter degrading enzymes	b. blockade of neurotransmitter reuptake	c. blockade of neurotransmitter receptors	d. increasing the availability of the neurotransmitter

272	Antidepressants include:	a. imipramine	b. fluoxetine	c. fluvoxamine	d. haloperidol
273	To SSRI belong:	a. citalopram	b. sertraline	c. fluoxetine	d. venlafaxine
274	To indications of SSRI belong:	a. depression	b. schizophrenia	c. anxiety disorders	d. eating disorders
275	To TCA belong:	a. fluoxetine	b. imipramine	c. sertraline	d. amitriptyline
276	The reversible inhibitor of monoamine oxidase A (RIMA) is:	a. amitriptyline	b. tranylcypromine	c. moclobemide	d. alprazolam
277	RIMA:	a. induce reversible inhibition of MAO A	b. are characterized by a high interaction potential with other drugs	c. have interactions with a diet containing tyramine	d. they do not interact with a diet containing tyramine
278	The full effect of antidepressants occurs in:	a. immediately	b. in a few hours	c. within 48 hours	d. in a few days to weeks
279	Lithium has:	a. high therapeutic index	b. teratogenic potential	c. rare and not serious adverse reactions	d. antimanic effect
280	n the treatment of manio-depressive syndrome we can use:	a. lithium	b. benzodiazepines	c. some antiepileptics	d. some antipsychotics
281	Anxiolytics include:	a. zolpidem	b. buspirone	c. diazepam	d. risperidone
282	Benzodiazepines can have following effects:	a. anticonvulsant and centrally muscle relaxant	b. anxiolytic and antifobic	c. hypnotic	d. antipsychotic
283	Benzodiazepines are used for:	a. short-term therapy of fear and anxiety	b. short-term treatment of insomnia	c. status epilepticus	d. depression
284	Antidote of benzodiazepines :	a. diazepam	b.flumazenil	c. GABA	d. barbiturates
285	Non-benzodiazepine anxiolitics include:	a. buspirone	b. zolpidem	c. alprazolam	d. zopiclone
286	Non-benzodiazepine hypnotics include:	a. buspirone	b. zolpidem	c. alprazolam	d. zopiclone
287	Antipsychotics:	a. block dopaminergic receptors (D 2)	b. block dopaminergic receptors in the prefrontal cortex	c. reduce prolactin production	d. increase prolactin production
288	Typical antipsychotics	a. chlorpromazine	b. haloperidol	c. ziprasidone	d. aripiprazol

	(first-generation atipsychotics) include:				
289	Atypical antipsychotics (second-generation atipsychotics) include:	a. risperidone	b. olanzapine	c. haloperidol	c. quetiapine
290	ADRs of antipsychotics include:	a. hypotension	b. hyperprolactinemia	c. extrapyramidal ADRs	d. anticholinergic ADRs
291	To extrapyramidal ADRs belong:	a. dyskinesia	b. galactorrhea	c. akathisia	d. Parkinson syndrome
292	Antiparkinson drugs - possible mechanisms of action:	a. blockade of dopamine receptors in basal ganglia	b. by increasing the dopamine level in the CNS	c. through anticholinergic activity in CNS	d. by blocking the cholinergic N-receptors
293	Fixed drug combinations for the treatment of Parkinson's disease:	a. levodopa, carbidopa	b. levodopa, amantadine	a. levodopa, selegiline	d. levodopa, carbidopa, entacapone
294	Carbidopa:	a. is a DOPA decarboxylase inhibitor	b. is a COMT inhibitor	c. is a DOPA decarboxylase activator	b. is a COMT activator
295	Entacapone:	a. is a DOPA decarboxylase inhibitor	b. is a COMT inhibitor	c. is a DOPA decarboxylase activator	b. is a COMT activator
296	Cognitives used in the treatment of Alzheimer's dementia include:	a. galantamine	b. memantine	c. donepezil	d. rivastigmine
297	Memantine:	a. is used in the early stages of Alzheimer's dementia	b. affects brain cholinergic neurotransmission	c. is used in more advanced stages of Alzheimer's dementia	d. affects glutaminergic neurotransmission of the brain
298	Antiepileptics are used in therapy:	a. manio-depressive syndrome	b. epilepsy	c. migraine	d. neuropathic pain
299	The mechanism of action of antiepileptic drugs:	a. blockade of depolarizing ion channels	b. antagonizing effect at glutamate receptors	c. potentiating the inhibitory effects of GABA	d. by attenuating the inhibitory effects of GABA
300	Antiepileptics suitable for the treatment of tonic-clonic epileptic seizures:	a. sodium valproate	b. carbamazepine	c. ethosuximide	d. lamotrigine
301	Antiepileptics suitable for the	a. sodium valproate	b. ethosuximide	c. carbamazepine	d. lamotrigine

	treatment of absences in epilepsy:				
302	Sodium valproate is suitable for the treatment of the following epileptic seizures:	a. tonic-clonic	b. atonic	c. myoclonic	d. absences
303	Carbamazepine is suitable for the treatment of the following epileptic seizures:	a. tonic-clonic	b. atonic	c. myoclonic	d. absences
304	Carbamazepine:	a. is CYP3A4 inhibitor	b. is CYP3A4 inducer	c. reduces the effect of hormonal contraceptives	d. reduces the effect of warfarin
305	Antiepileptics:	a. their administration is safe during pregnancy	b. teratogenic effects are particularly dangerous in the first trimester of pregnancy	c. administration of folic acid reduces the risk of neural tube defects	d. their blood levels do not change during pregnancy
306	Insulin:	a. can cause general convulsions	b. lowers blood glucose level	c. has antianabolic action	d. has anabolic action
307	Circulating glucagon level at DM:	a. is predominantly increased	b. is mainly reduced	c. is not changed	d. it is currently influenced by glucagon receptor active substances
308	To newer insulins belong:	a. regular insulin	b. insulin analogues	c. insulin NPH	d. insulin degludek
309	Insulin analogs:	a. are not causing weight gain	b. are administered perorally	c. are administered parenterally	d. can be given both orally and parenterally
310	Short-acting insulin analogs include:	a. insulin lispro	b. insulin degludek	c. insulin aspart	d. insulin glulisine
311	Long-acting insulin analogs include:	a. insulin glargine	b. insulin degludek	d. insulin detemir	c. insulin aspart
312	Intensified insulin regimen:	a. is used in the treatment of type 1 diabetes mellitus	b. is used in the treatment of type 2 diabetes mellitus	c. most often consists of 3-5 s.c. injections / day	d. most often consists of 1-2 s.c. injections / day
313	Conventional insulin regimen:	a. is used in the treatment of type 1 diabetes mellitus	b. is used in the treatment of type 2 diabetes mellitus	c. most often consists of 3-5 s.c. injections / day	d. most often consists of 1-2 s.c. injections / day
314	The risk of hypoglycaemia	a. insufficient food intake	b. alcohol	c. excessive food intake	d. physical activity

	in insulin therapy is increased by:				
315	Somogyi effect:	a. means "rebound" hyperglycemia	b. means "rebound" hypoglycemia	c. usually occurs at night	d. develops after an episode of hypoglycaemia
316	Incretin effect is:	a. peroral administration of glucose stimulates insulin secretion more efficiently than intravenous	b. peroral administration of glucose stimulates insulin secretion more later compared to intravenous	c. venous administration of glucose stimulates insulin secretion more efficiently than peroral	d. peroral administration of glucose stimulates insulin secretion equally to intravenous
317	Incretin mimetics:	a. are GLP-1 analogs	b. are DPP-4 inhibitors	c. are applied s.c.	d. are applied p.o.
318	Gliptins:	a. are GLP-1 analogs	b. are DPP-4 inhibitors	c. are applied s.c.	d. are applied p.o.
319	DPP-4 inhibitors:	a. can cause frequent hypoglycemias	b. are related to the risk of several types of infections	c. are administered per os	d. are administred intravenously only
320	To newer antidiabetics belong:	a. incretin mimetics	b. metformin	c. gliptins	d. glucuretics
321	Oral antidiabetics:	a. are substances of a non-hormonal nature	b. can be combined with insulin	c. replace diet	d. are used in the treatment of type 2 diabetes mellitus
322	Biguanides:	a. increase insulin secretion	b. increase sensitivity of insulin receptors	c. can cause lactic acidosis	d. they only are hypoglycaemic in diabetics
323	The first choice agent in metabolic syndrome is:	a. metformin	b. sulfonylurea agent	c. long term insulin analog	d. GLP-1 analog
324	Metformin is contraindicated:	a. in severe renal failure	b. in metabolic decompensation	c. before RTG contrast examination	d. at treatment with DPP-4 inhibitors
325	Rosiglitazone:	a. belongs to thiazolidinediones	b. is indicated for type 1 DM	c. belongs to PPAR gamma agonists	d. is indicated as a first-choice drug for type 2 DM
326	Sulphonylureas:	a. may cause hypoglycaemia	b. increase the secretion of residual insulin	c. increase sensitivity of insulin receptors	d. increase lipid metabolism
327	Repaglinide:	a. affects insulin resistance	b. increases insulin secretion from pancreatic B cells	c. is excreted predominantly by the kidneys	d. can be combined with other PADs
328	Canagliflozin is:	a. gliflozin	b. incretin mimetic	c. glucuretic	d. SGLT2 inhibitor
329	Alpha-glucosidase inhibitors include:	a. tolbutamide	b. gliclazide	c. acarbose	d. buformin

330	The risk of euglycemic ketoacidosis is increaes by treatment with:	a. sulfonylurea agents	b. metformin	c. glucuretics	d. aminoacid ketoanalogues
331	The risk of lactic acidosis is increased by treatment with:	a. sulfonylurea agents	b. metformin	c. glucuretics	d. insulin
332	The risk of weight gain is related to treatment with :	a. sulfonylurea agents	b. metformin	c. glucuretics	d. insulin
333	The risk of pancreatitis is increased by treatment with:	a. sulfonylurea agents	b. metformin	c. GLP-1 analogs	d. DPP-4 inhibitors
334	Indications for pancreas transplantation are:	a. severe progreding course of complications of type 1 diabetes	b. recidivant infections of urinary tract with dysregulated blood glucose levels	c. metabolic instability of type 1 diabetes with frequent hypoglycemia	d. if diabetes treatment requires too high doses of insulin
335	Thyroxine administration induces:	a. increase in basal metabolism	b. effect reduction of catecholamines	c. decrease in heart rate and blood pressure	d. increased CNS excitability
336	Possible causes of hypothyroidism:	a. amiodarone therapy	b. Hashimoto's thyroiditis	c. dietary iodine deficiency	d. all of the above
337	Thyrostatic effects have:	a. carbimazole	b. lithium	c. low doses of iodine	d. propyltiouracyl
338	Adverse effects of thyrostatics:	a. predominate B-type ADRs	b. skin allergic manifestations are common	c. rarely cause aplastic anemia	d. induce hyperthyroidism in newborns
339	Possible mechanisms of action of antibiotics include:	a. inhibition of cell wall synthesis	b. inhibition of cytoplasmic membrane function	c. inhibition of protein synthesis	d. stimulation of antibody production
340	Gram-positive bacteria include:	a. Staphylococcus sp.	b. Streptococcus sp.	c. Haemophilus sp.	d. Enterococcus sp.
341	Gram-negative bacteria include:	a. Clostridium sp.	b. Klebsiella sp.	c. Haemophilus sp.	d. Escherichia colli
342	Gram-negative bacteria include:	a. Pseudomonas sp.	b. Salmonella sp.	c. Shigella sp.	d. Mycoplasma sp.
343	Anaerobic bacteria include:	a. Clostridium sp.	b. Legionella sp.	c. Bacteroides sp.	d. Bordetella sp.
344	Facultative anaerobic bacteria:	a. include most bacteria	b. are able of growing both in the presence and absence of oxygen	c. include a minimum of bacteria	d. is a synonym for microaerophilic bacteria
345	The following bacteria do not have a cell wall:	a. Mycoplasma sp.	b. Pseudomonas sp.	c. Chlamydia sp.	d. Ureaplasma sp.

346	Basic narrow-spectrum penicillins include:	a. ampicillin	b. penicillin V	c. penicillin G	d. amoxicillin
347	The antibacterial effect of penicillins is due to:	a. impaired cell wall synthesis	b. inhibiting peptidoglycan chain synthesis	c. activation of lytic enzymes in bacterial wall	d. inhibiting DNA gyrase
348	Hoigne´s syndrome may occur after administration of:	a. i.v. ampicillin	b. i.m. depot penicillin	c. as a result of microembolization	d. p.o. penicillin
349	Aminopenicillins:	a. are primarily bacteriostatic	b. can cause allergies	c. are bactericidal	d. they are acid resistant
350	Clavulanic acid:	a. is used in combination with amoxicillin	b. inhibits ß-lactamase	c. has a bactericidal effect	d. reduces the incidence of allergic reactions to penicillins
351	Beta-lactamase inhibitors include:	a. azithromycin	b. sulbactam	c. tazobactam	d. clavulanic acid
352	The following are considered safe for use in pregnancy:	a. tetracyclines	b. aminoglycosides	C. ß-lactam ATB	d. quinolones
353	To penicillin have the closest mechanism of action and properties:	a. tetracyclines	b. aminoglycosides	c. cephalosporins	d. sulfonamides
354	Macrolide ATBs:	a. they are mainly bacteriostatic	b. they are mainly bactericidal	c. act on chlamydia and mycoplasma	d. are well absorbed from GIT
355	Macrolide antibiotics include:	a. streptomycin	b. clarithromycin	c. lincomycin	d. azithromycin
356	Azithromycin is advantageous for:	a. narrow spectrum	b. long elimination half-life	c. broad-spectrum	d. low sensitization
357	Inhibition of CYP 3A4:	a. is the same for all macrolide antibiotics and has no clinical significance	b. azithromycin inhibits CYP 3A4 the most	c. clarithromycin almost does not inhibit CYP 3A4	d. clarithromycin is an inhibitor of CYP 3A4
358	Tetracycline antibiotics:	a. they should not be taken with dairy products	b. are bactericidal	c. are contraindicated in pregnancy	d. are contraindicated in children
359	Tetracyclines are effective against:	a. many gram-positive and gram-negative bacteria	b. chlamydia and mycoplasma	c. yeast	d. amoeba
360	Tetracyclines may have the	a. nausea	b. candidiasis	c. diarrhea	d. dental enamel discoloration

	following ADRs:				
361	An advantage of doxycycline is:	a. broad-spectrum	b. bactericidal effect	c. no photosensitivity reaction	d. long elimination half-life
362	Aminoglycosides:	a. are potentially ototoxic	b. are poorly resorbed from GIT	c. are relatively safe	c. they are potentially nephrotoxic
363	Aminoglycosides:	a. are highly effective against anaerobic strains	b. are mainly active against G- microorganisms	b. are mainly active against G+ microorganisms	d. they can be combined with penicillins
364	The advantages of clindamycin are:	a. good bone penetration	b. poor absorption after p.o. administration	c. action against anaerobes	d. action against streptococci and staphylococci
365	Quinolones:	a. influence the synthesis of folic acid	b. inhibit bacterial DNA gyrase	c. affect both G- and G + microorganisms	d. affect chlamydia and mycoplasma
366	Harmful newly discovered ADRs of fluoroquinolones include:	a. tendonitis, joint pain	b. neuropathy	c. hearing and visual disturbances	d. aneurysms
367	Sulfamethoxazole + trimethoprim:	a. is the drug of choice for pneumonia caused by Pneumocystis carinii	b. suitable for single dose treatment of uncomplicated UTI	c. resistance rarely arises	d. suitable for the treatment of complicated UTI
368	Fosfomycin:	a. suitable for single dose treatment of uncomplicated UTI in women	b. suitable for single dose treatment of uncomplicated UTI in males	c. is a broad-spectrum antibiotic	d. is a narrow-spectrum antibiotic
369	Primarily bactericidal are:	a. sulfonamides	b. tetracyclines	c. aminoglycosides	d. cephalosporins
370	Primarily bactericidal are:	a. beta-lactam ATB	b. chloramphenicol	c. quinolones	d. macrolide ATB
371	We can expect a beneficial effect from a combination of:	a. penicillins + macrolides	b. amoxicillin + clavulanic acid	c. trimethoprim + sulfamethoxazole	d. ampicillin + sulbactam
372	For the treatment of infections caused by Clostridium difficile are used:	a. vancomycin	b. cefuroxime	c. metronidazole	d. penicillin
373	Bacteria that have mycolic acid in the cell wall include:	a. Mycoplasma sp.	b. Chlamydia sp.	Ureaplasma sp.	d. Mycobacteria sp.
374	Basic antituberculotics include:	a. rifampicin	b. izoniazid	c. ethambutol	d. pyrazinamide

375	Isoniazid:	a. is used in tuberculosis monotherapy	b. can induce peripheral neuropathy	c. its toxicity is reduced by pyridoxine	d. its toxicity is increased by pyridoxine
376	Rifampicin:	a. increases the effect of warfarin	b. decreases the effect of hormonal contraceptives	c. induces microsomal biotransformation enzymes	d. inhibits microsomal biotransformation enzymes
377	Possible ADRs of rifampicin:	a. nausea, diarrhea	b. hepatotoxicity, hematotoxicity	c. orange colour of tears, sweat and urine	d. may cause flu-like syndrome
378	Indications of aciclovir:	a. prevention and treatment of influenza	b. treatment of herpes zoster	c. treatment of AIDS	d. treatment of herpes simplex
379	Antiviral drugs for the treatment of cytomegalovirus infection:	a. valganciclovir	b. abacavir	c. valaciclovir	d. amantadine
380	Which antimycotic drug has a broad-spectrum?	a. griseofulvin	b. itraconazole	c. fluconazole	d. amphotericin B
381	The adverse effects and interactions of amphotericin B:	a.amphotericin B has a high nephrotoxic potential	b. amphotericin B inhibits CYP 3A4	c.liposomal form of amphotericin B is significantly more nephrotoxic than free form	b. amphotericin B induces CYP 3A4
382	Typical pathogens in mycotic infections:	a. Candida sp.	b. Epidermophyton sp., Trychophyton sp.	c. Aspergillus	d. Cryptococcus sp.
383	Polyene antifungals include:	a. clotrimazole	b. amphotericin	c. nystatin	d. sulfamethoxazole
384	Imidazole antifungals:	a. they are usually administered topically	b. they are usually administered p.o.	c. resistance is difficult to develop	d. resistance to them develops very quickly and easily
385	Imidazole antifungals include:	a. clotrimazole	b. amphotericin	c. nystatin	d. sulfamethoxazole
386	Triazole antifungals:	a. include voriconazole	b. have a similar mechanism of action as imidazole antifungals	c. include itraconazole	d. they cannot be used locally
387	Antiseptics:	a. destroy microorganisms on tissues (skin, wounds, mucous membranes)	b. destroy microorganisms on inanimate objects and in infectious material	c. have a specific mechanism of action	d. have a non-specific mechanism of action

388	Disinfectants:	a. destroy microorganisms on tissues (skin, wounds, mucous membranes)	b. destroy microorganisms on inanimate objects and in infectious material	c. have a narrow-spectrum	d. have a broad-spectrum
389	The antimicrobial effect of antiseptics strongly depends on:	a. substance concentration	b. temperature	c. time	d. penetration of the substance through skin
390	The mechanism of action of antiseptics:	a. precipitation of membrane proteins	b. cytoplasmic membrane lysis	c. disintegration of membrane lipids	d. none of these
391	Frequently used antiseptics, disinfectants include:	a. ethanol	b. chlorhexidine	c. substances with quaternary nitrogen	d. iodine compounds
392	The iodine compounds act:	a. bactericidal	b. antifungal	c. virucidal	d. sporadically on spores
393	Chlorohexidine has a significant effect on:	a. mycobacteria	b. spores	c. G+ microorganisms	d. pseudomonas
394	Trastuzumab:	a. is a monoclonal antibody against the HER2 receptor	b. is used in the treatment of breast cancer	c. it is a monoclonal antibody against TNF-α	d. it is a monoclonal antibody against vascular endothelial growth factor (VEGF)
395	Monoclonal antibodies against vascular endothelial growth factor (VEGF):	a. are used in the treatment of colorectal cancer	b. are used in ophthalmology in the treatment of macular degeneration	c. this group includes bevacizumab	d. this group includes infliximab
396	Monoclonal antibodies against TNF-α:	a. are used in the treatment of rheumatoid arthritis	b. are used in the treatment of ulcerative colitis and Crohn's disease	c. are used in the treatment of psoriasis	d. these include trastuzumab
397	Monoclonal antibodies against TNF-α include:	a. infliximab	b. adalimumab	c. bevacizumab	d. natalizumab
398	Monoclonal antibodies:	a. are also used in hypolipidemic treatment	b. are not used in neurology	c. adverse effects include hypersensitivity reactions	d. treatment with monoclonal antibodies is associated with an increased risk of opportunistic infections
399	Monoclonal antibodies:	a. are also used as antidotes, e.g. with	b. in neurology they are used in	c. their administration is associated with	d. chimeric monoclonal antibodies do not

		dabigatran treatment	the treatment of multiple sclerosis	the risk of autoimmune diseases	contain any regions of human origin
400	Cetuximab:	a. is a monoclonal antibody against epidermal growth factor receptor (EGFR)	b. is a monoclonal antibody against vascular endothelial growth factor (VEGF)	c. is a monoclonal antibody against TNF-α	d. is used in the treatment of colorectal cancer
401	Original drug:	a. has a patent for 15 to 20 years	b. the patent is registered during phase II. clinical trial	c. the patent is registered in the post-marketing phase of the clinical trial	d. the development of a new drug takes 3-5 years
402	Generic drug:	a. it must have the same qualitative composition as the reference drug	b. it must have the same quantitative composition as the reference drug	c. must have the same excipients as the reference drug	d. it must have the same price as the reference drug
403	Generic drug:	a. generic drug should have pharmacokinetic properties bioequivalent to original drug	b. is bioequivalent to the reference drug	c. has the same dosage form as the reference drug	d. it has the same efficacy, safety and price as the reference drug
404	Mark the correct statement:	a. AUC of the generic must be 80% - 125% of the original	b. AUC of the generic must be 95% - 110% of the original	c. the price of the generic drug must be 50% lower than the price of the original drug when entering the market	d. the price of the generic drug must be 60% lower than the price of the original drug when entering the market
405	Generic drugs:	a. are stable at room temperature	b. they mainly have a parenteral route of administration	c. they increase the risk of immunogenicity	d. have a low molecular weight
406	Original drugs:	a. are stable at room temperature	b. they mainly have a parenteral route of administration	c. they increase the risk of immunogenicity	d. have a low molecular weight
407	Pharmacology deals with:	a. drug interactions with the body	b. synthesis of drugs	c. production of drug dosage forms	d. processing and disposal of pharmaceuticals
408	Pharmacodynamics is dealing with:	a. the effect of the drug on the body	b. processing the drug in the body	c. transport of the drug into the cells	d. drug absorption
409	EC50 represents:	a. the drug concentration producing a 50% effect	b. concentration of drug producing less than 50% effect	c. an effective drug concentration that produces half the biological effect	d. half the concentration of the drug, which will produce the maximum effect

410	ED50 represents:	a. median effective dose	b. the dose of drug most likely to elicit a response in 50% of individuals	c. it is the same as EC50	d. it is the same as TD50
411	TD50 represents:	a. median lethal dose	b. median toxic dose	c. is the dose that causes death in 50% of individuals	b. is the dose that produces a toxic effect in 50% of individuals
412	LD50 represents:	b. median toxic dose	b. is the dose that produces a toxic effect in 50% of individuals	a. median lethal dose	c. is the dose that causes death in 50% of individuals
413	Therapeutic index:	a. is the TD50/ED50 ratio	b. if it is more than 10, the drug is relatively safe	c. is the ED50/TD50 ratio	d. represents the safety of the drug
414	Therapeutic index:	a. indicates how much the median toxic dose is higher than the median effective dose	b. if it is low, the risk of toxic effects increases	c. if it is high, the risk of toxic effects increases	d. if it is high, the drug is relatively safe
415	The therapeutic window is:	a. the difference between LD50 and ED50 values	b. drugs with a large therapeutic range are relatively safe	c. drugs with a large therapeutic window are less safe	d. drugs with a small therapeutic window are less safe
416	The drug can produce its effect through:	a. binding to receptors	b. binding to enzymes	c. binding to plasma proteins	d. binding to the plasma membrane
417	Receptors include:	a. G-protein coupled receptors	b. ligand-gated ion channels	c. cyclooxygenase	d. proteins to which the drug binds and produces a biological effect
418	Cyclooxygenase -1:	a. is a protein	b. is an enzyme	c. is a hormone	d. is a receptor
419	Intracellular receptors:	a. they can be localized in the cytoplasm	b. they can be localized on the cell surface	c. they can be localized in the nucleus	d. their ligands are hydrophilic molecules
420	Intracellular receptors:	d. their ligands are hydrophilic molecules	b. their ligands are lipophilic molecules	c. their ligands are both hydrophilic and lipophilic molecules	d. examples of their ligands are steroid hormones
421	Depolarization means:	a. increase in membrane potential	b. decrease in membrane potential	c. increasing the probability of an action potential	d. reducing the probability of the occurrence of an action potential
422	Hyperpolarization means:	a. increase in membrane potential	b. decrease in membrane potential	c. increasing the probability of an action potential	d. reducing the probability of the occurrence of an action potential
423	Second messengers:	a. are signal transducing molecules	b. include cyclic adenosine monophosphate	c. include cyclic guanosine monophosphate	d. include inositol triphosphate

424	cAMP:	a. the effect of cAMP is determined by the activation of protein kinase A	b. the effect of cAMP is determined by the activation of protein kinase C	c. the effect of cAMP is determined by the activation of protein kinase G	d. the effect of cAMP is determined by the activation of protein kinase B
425	cGMP:	a. the effect of cGMP is determined by the activation of protein kinase A	b. the effect of cGMP is determined by the activation of protein kinase C	c. the effect of cGMP is determined by the activation of protein kinase G	d. the effect of cGMP is determined by the activation of protein kinase B
426	DAG (diacylglycerol):	a. activates protein kinase A	b. activates protein kinase C	c. activates protein kinase G	d. activates protein kinase B
427	Second messengers derived from membrane phospholipids include:	a. cAMP	b. DAG (diacylglycerol)	c. inositol triphosphate	d. cGMP
428	The antidote for dabigatran is:	a. andexanet alfa	b. infliximab	c. idarucizumab	d. abxicimab
429	The antidote for rivaroxaban is:	a. andexanet alfa	b. infliximab	c. idarucizumab	d. abxicimab
430	The antidote for enoxaparin is:	a. andexanet alfa	b. infliximab	c. idarucizumab	d. abxicimab
431	The antidote for heparin is:	a. protamine sulfate	b. vitamin K	c. andexanet alfa	d. bevacizumab
432	Idarucizumab is an antidote for:	a. enoxaparin	b. dabigatran	c. apixaban	d. fondaparin
433	For life-threatening bleeding after edoxaban, the following is administered:	a. i.v. vitamin K	b. 4-factor prothrombin complex concentrate	c. idarucizumab	d. andexanet alfa
434	Adrenaline:	a. is given during anaphylactic shock	b. increases blood pressure	c. increases cardiac output	d. it is produced by the adrenal glands
435	Non-selective sympathomimetics include:	a. adrenaline	b. noradrenaline	c. dopamine	d. dobutamine
436	Selective α1-sympathomimetics include:	a. substances used to treat nasal congestion	b. methyldopa	c. naphazoline	d. phenylephrine
437	Selective α2-sympathomimetics:	a. they are used in opiate addiction therapy	b. include methyldopa	c. include clonidine	d. they are used in the therapy of hypertension
438	Selective β2-sympathomimetics:	a. include formoterol	b. include salbutamol	c. have a tocolytic effect	d. have a uterotonic effect
439	Non-selective α-sympatholytics include:	a. terazosin	b. phenoxybenzamine	c. phentolamine	d. tamsulosin

440	Selective α1-sympatholytics:	a. include tamsulosin	b. they are used in the therapy of hypertension	c. they are used in the therapy of benign prostatic hyperplasia	d. include rilmenidine
441	Indirectly acting sympathomimetics:	a. they act directly on the adrenergic receptor	b. they can affect neurotransmitter synthesis	c. they can affect the storage of the neurotransmitter	d. they can affect neurotransmitter release
442	Phenoxybenzamine:	a. is a competitive antagonist of α1 and α2 receptors	b. is an irreversible antagonist of α1 and α2 receptors	c. its effect lasts less than the effect of phentolamine	d. its effect lasts longer than the effect of phentolamine
443	Phentolamine:	a. is a competitive antagonist of α1 and α2 receptors	b. is an irreversible antagonist of α1 and α2 receptors	c. its effect lasts less than the effect of phenoxybenzamine	d. its effect lasts longer than the effect of phenoxybenzamine
444	Mydriatics:	a. dilate pupils	b. mydriasis is caused by activation of the sympathetic nervous system	c. mydriasis is caused by activation of the parasympathetic nervous system	d. mydriasis is caused by inhibition of the parasympathetic nervous system
445	Tropicamide:	a. it has a long biological half-life	b. belongs to substances causing mydriasis	c. belongs to anticholinergics	d. it has a short biological half-life
446	Cycloplegics:	a. after their application, the eye loses the ability to focus on nearby objects	b. after their application, the eye loses the ability to focus on distant objects	c. after their application, the eye is sensitive to the sun	d. include phenylephrine
447	Antimuscarinics:	a. cause mydriasis	b. cause cycloplegia	c. driving motor vehicles should be avoided after their administration	d. they can be administered without restriction to patients with glaucoma
448	Topical beta-blockers for glaucoma include:	a. metoprolol	b. timolol	c. carvedilol	d. carteolol
449	Prostaglandin analogues administered locally in glaucoma:	a. are drugs of the first choice in open-angle glaucoma	b. they have fixed combinations with beta blockers	c. include latanoprost	d. are second-line drugs for open-angle glaucoma
450	ADRs of prostaglandins administered locally in glaucoma:	a. eye color change due to increased number of melanosomes	b. loss of eyelashes	c. dry eye	d. eyelash growth
451	Brimonidine:	a. is an alpha2 sympathomimetic	b. is an alpha2 sympatholytic	c. is a sympathomimetic	d. is a sympatholytic

452	Carbonic anhydrase inhibitors given for glaucoma include:	a. acetazolamid p.o.	b. acetazolamide topically	c. brinzolamide topically	d. dorzolamide topically
453	Carbonic anhydrase inhibitors given for glaucoma include:	a. acetazolamide	b. timolol	c. tropicamide	d. brimonidine
454	Hormonal contraceptives:	a. may contain a combination of synthetic estrogen with synthetic progestogen	b. combined contraception is prescribed more often than progestin-only contraception	c. may contain only progestin	d. combined contraception is prescribed less often than progestin-only contraception
455	Combined two-component oral contraceptive:	a. monophasic has tablets with the same amount of hormones	b. triphasic has a different amount of hormones in each tablet	c. biphasic has two types of pills with different amounts of hormones	d. triphasic has 3 types of tablets
456	Oral contraceptives:	a. some types are taken for 21 days, followed by a 7-day break	b. some types are taken for 28 days without a break, because each tablet contains hormones	c. some types are taken for 28 days without a break for better adherence	d. the oral contraceptives, which are taken for 28 days without a break, have 7 pills without hormones
457	Synthetic estrogens used in hormonal contraception include:	a. drospirenone	b. ethinylestradiol	c. levonorgestrel	d. estetrol
458	Benefits of combined contraception include:	a. weakening and shortening of menstrual bleeding	b. prevention of ovarian cancer	c. improvement of acne	d. breast cancer prevention
459	Disadvantages of combined contraception include:	a. nausea, vomiting	b. increased risk of cervical cancer	c. increased risk of thromboembolism	d. increased risk of liver cancer
460	Testosterone:	a. can be administered i.m.	b. has a significant first-pass effect	c. metabolism in the liver is negligible	d. can be administered in a depot injection
461	Testosterone indications:	a. hormone replacement therapy for its deficiency	b. in some types of aplastic anemia	c. gender change	d. it is abused as doping
462	ADRs of testosterone:	a. hypertension	b. sodium retention	c. hyponatremia	d. decreased appetite
463	Danazol:	a. it is used in the treatment of endometriosis	b. it is used in gynecomastia	c. it is a strong androgen	d. it is used for the treatment of severe cyclical

					breast pain with or without fibrocystic breast
464	In the therapy of an acute attack of gout, the following drugs are used:	a. non-selective COX inhibitors	b. selective COX-2 inhibitors	c. colchicine	d. glucocorticoids
465	In the prophylactic therapy of gout, the following drugs are used:	a. allopurinol	b. xanthine oxidase inhibitors	c. febuxostat	d. rasburicase
466	Colchicine:	a. has a high therapeutic index	b. has a low therapeutic index	c. is a natural alkaloid from autumn crocus	d. ADRs after administration occur frequently
467	Allopurinol:	a. chronic administration should not be interrupted during an acute attack of gout	b. in case of an acute attack of gout, its chronic administration should be stopped immediately	c. it is needed to start therapy immediately at an acute attack of gout	d. is the drug of first choice for the prophylaxis of acute attacks of gout
468	Xanthine oxidase inhibitors include:	a. allopurinol	b. rasburicase	c. colchicine	d. febuxostat
469	Rasburicase:	a. it is isolated from the fungus Aspergillus flavus	b. is a pegylated recombinant form of urate oxidase	c. is administered p.o.	d. is administered i.v.
470	Rasburicase:	a. catalyzes the conversion of uric acid to more soluble allantoin, which also causes production of hydrogen peroxide	b. used for prophylaxis of hyperuricemia during tumor chemotherapy	c. infusion-related reactions occur in 8-11% of patients	d. infusion-related reactions occur in 2% of patients
471	ADRs of colchicine:	a. nausea, vomiting, diarrhea	b. constipation	c. kidney damage after long-term administration	d. liver damage after long-term administration
472	ADRs of allopurinol:	a. nausea, vomiting	b. increased level of TSH (thyroid stimulating hormone)	c. increased risk of an acute attack of gout	d. hypersensitivity reactions
473	ADRs of febuxostat:	a. nausea, vomiting, diarrhea	b. tumor lysis syndrome	c. increased risk of an acute attack of gout	d. edema
474	Laxatives:	a. they support the emptying of intestinal contents	b. many of them are over-the-counter drugs	c. some of them are dietary supplements	d. they can be applied p.o. and also rectally
475	Laxatives:	a. are mostly given for a short time	b. are usually administered long-term	c. they represent a symptomatic treatment	d. they represent a causal treatment

476	Bulk-forming laxatives:	a. are substances that increase the content in the large intestine	b. they are easily absorbed	c. they are not absorbed	d. absorb liquid in the intestine
477	Bulk-forming laxatives include:	a. poorly digestible polysaccharides	b. methylcellulose	c. psyllium	d. agar
478	Osmotic laxatives:	a. are substances that bind water in the lumen of the intestine	b. include lactulose	c. include sodium sulfate	d. include macrogol (polyethylene glycol)
479	Saline laxatives:	a. are substances that bind water in the lumen of the intestine	b. include lactulose	c. include sodium sulfate	d. include magnesium sulfate
480	Stimulant laxatives:	a. are substances that increase the content in the large intestine	a. are substances that bind water in the lumen of the intestine	c. they irritate the intestinal wall	d. include castor oil
481	Synthetic stimulant laxatives include:	a. castor oil	b. bisacodyl	c. sodium picosulfate	d. psyllium
482	Laxatives that are opioid receptor antagonists include:	a. loperamide	b. bisacodyl	c. naloxegol	d. sodium picosulfate
483	Paraffinum liquidum (liquid paraffin):	a. belongs to stool softeners	b. is suitable for the therapy of chronic constipation	c. is intended for single use	d. can be administered p.o. or in the form of an enema
484	Intestinal anti-infectives include:	a. fidaxomicin	b. probiotics	c. prebiotics	d. metabolic products of bacteria
485	Eubiotics:	a. are drugs that modify the intestinal microflora	b. probiotics do not include yeast	c. include probiotics	d. include prebiotics
486	Intestinal adsorbents:	a. they are able to absorb toxins	b. include activated charcoal	c. include diosmectite	d. are able to adsorb some drugs
487	Antipropulsives:	a. they stimulate opioid receptors	b. they inhibit opioid receptors	c. include loperamide	d. include diphenoxylate
488	Supportive treatment of diarrhea:	a. replacement of water and electrolytes	b. tea mixtures containing tannins	c. limiting fat in the diet	d. restriction of dietary fiber
489	Constipation and perimalleolar edema are adverse effects of:	a. calcium channel blockers	b. statins	c. fibrates	d. NSAIDs

490	Methyldopa:	a. is used to treat hypertension during pregnancy	b. acts in the central nervous system	c. inhibits the RAAS	d. is an alpha2-receptor antagonist
491	Vivid dreams and nightmares are adverse effects of:	a. alpha-blockers	b. beta-blockers	c. beta2-sympathomimetics	d. alpha2-sympathomimetics
492	In atrial fibrillation, we administer the following antithrombotics:	a. warfarin	b. ASA	c. DOAC	d. clopidogrel
493	In valvular atrial fibrillation, we administer the following anticoagulants:	a. dabigatran	b. apixaban	c. warfarin	d. edoxaban
494	In non-valvular atrial fibrillation, we administer the following anticoagulants:	a. dabigatran	b. apixaban	c. warfarin	d. edoxaban
495	Amiodarone:	a. can be administered p.o.	b. can be administered in i.v. infusion	c. it has a very long biological half-life	d. it has a very short biological half-life
496	Amiodarone:	a. it is given for some supraventricular arrhythmias	b. belongs to the class III. of antiarrhythmics according to the Vaugham-Williams classification	c. it is administered in severe ventricular arrhythmias	d. belongs to the class I. of antiarrhythmics according to the Vaugham-Williams classification
497	Class III. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs:	a. amiodarone	b. flecainide	c. dronedarone	d. propafenone
498	Class I. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs:	a. amiodarone	b. flecainide	c. dronedarone	d. propafenone
499	Class II. of antiarrhythmics according to the Vaugham-Williams classification	a. atenolol	b. diltiazem	c. esmolol	d. verapamil

	includes following drugs:				
500	Class IV. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs:	a. atenolol	b. diltiazem	c. esmolol	d. verapamil
501	Parenteral, indirect inhibitors of factor IIa and Xa include:	a. low molecular weight heparins	b. unfractionated heparin	c. edoxaban	d. apixaban
502	Unfractionated heparin:	a. very fast onset of action (within minutes)	b. its antidote is idarucizumab	c. its antidote is vitamin K	d. the most common ADRs is bleeding
503	Enoxaparin:	a. is a direct thrombin inhibitor	a. is an indirect thrombin inhibitor	d. inhibits more coagulation factor Xa than coagulation factor Iia	d. inhibits more coagulation factor IIa more than coagulation factor Xa
504	Fondaparinux:	a. is a plant derived inhibitor of coagulation factor Xa	b. is a synthetic inhibitor of coagulation factor IIa	c. is administered p.o. 2 times a day	d. is administered s.c. once daily
505	Warfarin is:	a. coumarin	b. vitamin K antagonist	c. vitamin K analogue	d. inhibits vitamin K epoxide reductase
506	Warfarin:	a. inhibits carboxylation of glutamic acid residues of factors II., VII., IX., X.	b. inhibits protein C and S carboxylation	c. stimulates the oxidation of vitamin K	d. induces vitamin K epoxide reductase
507	Coumarins:	a. are indirect oral anticoagulants	b. inhibit the activity of coagulation factors II, VII, IX, X	c. influence the synthesis of coagulation factors II, VII, IX, X	d. they have a fast, powerful anticoagulant effect
508	The activity of warfarin is monitored using:	a. activated partial thromboplastin tim e	b. INR	c. thrombin time	d. activated coagulation time
509	Warfarin:	a. is a teratogen	b. has a wide therapeutic window	c. has pharmacodynam ic interactions with food	d. it is metabolized in the liver mainly by CYP1B2
510	Direct oral anticoagulants:	a. inhibit the activity of activated coagulation factors X and II	b. have a strong, predictable anticoagulant effect	c. they have a slow onset of action and an unpredictable	d. they are given parenterally once a day

				anticoagulant effect	
511	Dabigatran:	a. is a natural inhibitor of coagulation factor Xa	b. inhibits free thrombin as well as thrombin bound to fibrin	c. its contraindication is severe renal dysfunction	d. its available antidote is protamine sulfate
512	Dabigatran:	a. inhibits the synthesis of coagulation factor II	b. its antidote is idarucizumab	c. inhibits thrombin activity	d. is a direct antiplatelet drug
513	Xabans have following effects:	a. anticoagulant	b. antiplatelet	c. thrombolytic	d. fibrinolytic
514	Direct factor Xa inhibitors include:	a. edoxaban	b. abxicimab	c. dalteparin	idarucizumab
515	Apixaban:	a. is an irreversible antiplatelet agent	b. it is indicated for the treatment of thromboembolic disease	c. the mechanism of action reduces the supply of thrombin	d. it is administered s.c. 1 times a day
516	Fibrinolytics:	a. they break down fibrin into fibrin degradation products	b. significantly increase the risk of bleeding	c. they are combined with antiplatelet and/or anticoagulant treatment	d. therapy is monitored using thrombin time
517	Fibrin-specific, selective thrombolytics include:	a. urokinase	b. altepase	c. antistreptase	d. tenectepase
518	Indications for administration of fibrinolytics belong:	a. acute myocardial infarction	b. obliterating arterial disease of the lower limbs	c. ischemic stroke	d. massive pulmonary embolism
519	Altepase:	a. is a tissue plasminogen activator	b. is antigenic	c. is a natural protease from vascular endothelium	d. it is administered s.c. 1 times a day
520	Tenecteplase:	a. is a fibrin specific anticoagulant	b. has less resistance to natural inhibitors	c. is a natural protease from vascular endothelium	d. it is administered s.c. 1 times a day
521	Rhabdomyolysis and myopathy are adverse effects of:	a. statins	b. beta-blockers	c. alpha-blockers	d. xabans
522	Statins:	a. short-acting ones are taken in the evening	b. short-acting are taken in the morning	c. short-acting are given taken lunch	d. cholesterol is mainly synthesized overnight

523	To the pleiotropic effects of statins belong:	a. endothelial protective effect	b. stabilization of atherosclerotic plaques	c. anti-inflammatory effect	d. antioxidant effect
524	Statins with a longer biological half-life include:	a. atorvastatin	b. rosuvastatin	c. simvastatin	d. fluvastatin
525	Ezetimibe:	a. inhibits the absorption of cholesterol from the GIT	b. inhibits the absorption of TAG from the GIT	c. inhibits the absorption of bile acids from the GIT	d. inhibits the absorption of fat-soluble vitamins from the GIT
526	Ezetimibe:	a. blocks NPC1L1	b. activates NPC1L1	c. acts in the liver	d. acts in the brush border of the intestine
527	Ezetimibe:	a. the combination with a statin potentiates the hypolipidemic effect	b. combination with a statin reduces the hypolipidemic effect	c. if administered as monotherapy, its effect on reducing LDL cholesterol is approx. 20%	d. if administered as monotherapy, its effect on reducing LDL cholesterol is approx. 40%
528	Bempedoic acid:	a. is an ATP citrate lyase (ACL) inhibitor	b. reduces cholesterol biosynthesis and regulates LDL receptors	c. lowers CRP (C-reactive protein)	d. increases CRP (C-reactive protein)
529	ADRs of bempedoic acid:	a. hyperuricemia	b. muscle cramps and limb pain	c. nausea and diarrhea	d. anemia
530	ADRs of statins:	a. nausea and diarrhea	b. abdominal pain, flatulence	c. myalgia	d. elevated liver enzymes
531	ADRs of fibrates:	a. nausea and diarrhea	b. myalgia	c. rash, pruritus	d. headaches, fatigue
532	Inclisiran:	a. is a double-stranded, small interfering ribonucleic acid	b. increases the clearance of plasma LDL particles	c. inclisiran binds to receptors in hepatocytes, enters the cell and inhibits PCSK9 gene expression	d. increases the number of LDL receptors on the surface of hepatocytes
533	Inclisiran:	a. is administered s.c.	b. is administered p.o.	c. is administered i.v.	d. is administered s.c. or i.v.
534	Inclisiran:	a. it is given once a year	b. it is administered once every 6 months	c. it is given once a month	d. it is given once every 2 weeks
535	PCSK9 inhibitors:	a. are monoclonal antibodies	b. PCSK9 is responsible for the degradation of LDL receptors on the surface of hepatocytes	c. they inhibit the enzyme PCSK9	d. PCSK9 is responsible for the synthesis of LDL receptors on the surface of hepatocytes

536	The main causes of iron deficiency include:	a. abnormal blood loss from the GIT	b. celiac disease	c. abnormal blood loss with heavy menstrual bleeding	d. high intake of meat products
537	We can administer iron preparations:	a. as tablets	b. as syrup	c. i.v.	d. i.m.
538	Oral iron:	a. include bivalent iron salts	b. iron can be combined with ascorbic acid	c. includes trivalent iron salts	d. iron can be combined with folic acid
539	Iron salts in the treatment of anemia can be combined with:	a. folic acid	b. vitamin B_9	c. vitamin B_{12}	d. calcium
540	ADRs of oral iron:	a. black stool	b. nausea	c. constipation	d. diarrhea
541	Parenteral iron is administered:	a. in bivalent form	b. in a complex with a carbohydrate component	c. in trivalent form	d. in a complex with a protein component
542	Folic acid:	a. it is administered before pregnancy as a prevention of neural tube deffects	b. it is not taken during pregnancy	c. it is administered during therapy with methotrexate	d. it is given for megaloblastic anemia
543	Vitamin B_{12}:	a. its deficiency is common among vegetarians and vegans	b. in concurrent lack of folic acid, folic acid should be supplemented first	c. its deficiency is common in the lack of intrinsic factor	d. it is given for pernicious anemia
544	Epoetin alfa:	a. is an erythropoietin analogue	b. it is administered parenterally	c. it is administered p.o.	d. its use in sports is prohibited
545	Anemia can be caused by:	a. NSAIDs	b. cytostatics	c. alcoholism	d. infections
546	Which of the following drugs has a risk of agranulocytosis:	a. clozapine	b. dexamethasone	c. amlodipine	d. hydroxychloroquine
547	Hormones that affect the growth of some tumor cells include:	a. glucocorticoids	b. estrogens	c. androgens	d. progesterone
548	Glucocorticoids:	a. they are used in the therapy of lymphoblastic leukemias	b. they are used in the therapy of lymphomas	c. they can reduce edema around tumors	d. include dexamethasone
549	Substances that modify the effect of sex hormones are used in the	a. prostate	b. breast	c. lungs	d. pancreas

	cancer treatment of:				
550	Antiestrogens:	a. are also known as SERMs (selective estrogen receptor modulators)	b. they are used in the treatment of hormone-dependent breast tumors	c. include e.g. tamoxifen	d. include e.g. anastrozole
551	Aromatase inhibitors:	a. include e.g. tamoxifen	b. include e.g. anastrozole	c. include e.g. letrozole	d. aromatases are enzymes responsible for the conversion of steroids into estrogens
552	In the treatment of hormone-dependent breast cancer, the following drugs are used:	a. SERMs	b. SERDs	c. aromatase inhibitors	d. estrogens
553	SERDs:	a. are selective estrogen receptor degraders	b. include fulvestrant	c. include anastrozole	d. include tamoxifen
554	In premenopausal women, the following hormone therapy can be used for breast cancer:	a. antiestrogens	b. tamoxifen	c. SERMs	d. SERDs
555	In postmenopausal women, the following hormone therapy can be used for breast cancer:	a. antiestrogens	b. tamoxifen	c. SERMs	d. SERDs
556	The following hormonal therapy is used in the treatment of prostate cancer:	a. antiandrogens	b. estrogens	c. gonadoliberin analogues	d. androgens
557	Antiandrogens:	a. bicalutamide is a nonsteroidal antiandrogen	b. bicalutamide is a steroidal antiandrogen	c. cyproterone is a nonsteroidal antiandrogen	d. cyproterone is a steroidal antiandrogen
558	Gonadoliberin analogues:	a. include goserelin	b. include bicalutamide	c. includes cyproterone	d. they competitively inhibit gonadoliberin

559	Hypothyroidism, diabetes insipidus and weight gain are adverse effects of:	a. lithium	b. levothyroxine	c. methotrexate	d. pioglitazone
560	Bisphosphonates:	a. are used in treatment of osteoporosis	b. are used in treatment of Paget's disease	c. are used in oncology	d. are not used in oncology
561	Bisphosphonates include:	a. zolendronic acid	b. tamoxifen	c. ibandronic acid	d. disodium pamidronate
562	ADRs of bisphosphonates:	a. esophagitis	b. headache and muscle pain	c. osteonecrosis of the jaw	d. pyrexia
563	Cytostatics:	a. they are specific only for cancer cells	b. they can also damage healthy cells	c. are relatively well tolerated	d. have relatively many adverse effects
564	Typical ADRs of cytostatics include:	a. they have a negative effect on hair follicles	b. they have a negative effect on the GIT mucosa	c. they have a negative effect on the bone marrow	d. they have a negative effect on the fetal development
565	Possible mechanisms of action of cytostatics are:	a. inhibition of nucleic acid biosynthesis	b. damage to the structure and function of already formed nucleic acids	c. microtubule damage and abnormal mitosis	d. interference with protein synthesis
566	Alkylating agents:	a. damage the structure and function of nucleic acids by alkylation	b. target and destroy resting cells	c. target and destroy proliferating cells	b. do not target and destroy resting cells
567	To alkylating agents belong:	a. nitrogen mustard derivatives	b. platinum derivatives	c. nitrosourea derivatives	d. a relatively wide range of drugs
568	To alkylating agents belongs:	a. cyclophosphamide	b. busulfan	c. doxorubicin	d. bleomycin
569	To cytotoxic antibiotics belongs:	a. doxorubicin	b. bleomycin	c. fludarabine	d. gemcitabine
570	To antimetabolites belong:	a. methotrexate	b. fludarabine	c. gemcitabine	d. fluorouracil
571	To antimetabolites belong:	a. folic acid antagonists	b. purine antagonists	c. pyrimidine antagonists	d. topoisomerase inhibitors
572	To mitotic inhibitors belong:	a. topotecan	b. vinca alkaloids	c. irinotecan	d. taxanes
573	Vinca alkaloids:	a. include vinorelbine	b. include vinflunine	c. they are of plant origin - Vinca rosea	d. belong to mitotic inhibitors
574	Taxanes:	a. include docetaxel	b. include paclitaxel	c. are of plant origin - Taxus brevifolia	d. belong to mitotic inhibitors

575	To topoisomerase inhibitors belong:	a. topotecan inhibits topoisomerase I	b. topotecan inhibits topoisomerase II	c. irinotecan inhibits topoisomerase I	d. etoposide inhibits topoisomerase II
576	To anthracyclines belong the following cytotoxic antibiotics:	a. epirubicin	b. doxorubicin	c. bleomycin	d. azithromycin
577	Tendon rupture/damage is a adverse effect of:	a. fluoroquinolones	b. macrolides	c. oxazolidinediones	d. vancomycin
578	Aminoglycosides are retained by the kidneys in:	a. proximal tubule	b. distal tubule	c. Loop of Henle	d. glomerulus
579	Aminoglycosides are most effective against:	a. aerobic gram-negative bacteria	b. anaerobic gram-negative bacteria	c. aerobic gram-positive bacteria	d. anaerobic gram-positive bacteria
580	Aminoglycosides bind:	a. irreversibly to the 30S subunit of the ribosome	b. reversibly to the 30S subunit of the ribosome	c. reversibly to the 50S subunit of the ribosome	d. irreversibly to the 50S subunit of the ribosome
581	Tetracyclines bind:	a. irreversibly to the 30S subunit of the ribosome	b. reversibly to the 30S subunit of the ribosome	c. reversibly to the 50S subunit of the ribosome	d. irreversibly to the 50S subunit of the ribosome
582	Macrolides bind:	a. irreversibly to the 30S subunit of the ribosome	b. reversibly to the 30S subunit of the ribosome	c. reversibly to the 50S subunit of the ribosome	d. irreversibly to the 50S subunit of the ribosome
583	In the treatment of infections caused by Clostridium difficile can be used:	a. fidaxomicin	b. vancomycin p.o.	c. vancomycin i.v.	d. Saccharomyces boulardii
584	Probiotics include:	a. lactobacilli	b. bifidobacteria	c. yeast	d. enterobacteria
585	Natural probiotics:	a. are present mainly in yoghurt, soured milk and kefir	b. pasteurization eliminates them from groceries	c. are present in foods prepared by fermentation	d. pasteurization does not affect their presence
586	Highly similar biologic drugs:	a. they will come on the market after the patent for the reference biologic has expired	b. are e.g. growth hormones	c. are drugs with low molecular weight	d. are e.g. low molecular weight heparins
587	Biologics:	a. are herbal products	b. are vaccines	c. are growth hormones	d. are Janus kinase (JAK) inhibitors
588	Biosimilars:	a. are very stable at room temperature	b. they have parenteral route of administration	c. they increase the risk of immunogenicity	d. have a low molecular weight

589	Reference biologic drugs:	a. are very stable at room temperature	b. they have parenteral route of administration	c. they increase the risk of immunogenicity	d. have a low molecular weight
590	Biologics:	a. they are not very stable at room temperature	b. they are made from living cells using biotechnology	c. reduce the risk of immunogenicity	d. have a low molecular weight
591	Biologic drugs include:	a. monoclonal antibodies	b. gene therapy	c. insulin	d. erythropoetin
592	Omalizumab:	a. binds to IL-5	b. it is used in the treatment of severe asthma	c. binds to IgE	d. it is used in the treatment of mild asthma
593	In the treatment of eosinophilic asthma, the following drugs are used:	a. substances that bind to IL-5	b. mepolizumab	c. benralizumab	d. substances that bind to IL-4 and IL-13
594	Dupilumab:	a. binds to IL-5	b. binds to IL-4 and IL-13	c. binds to IgE	d. binds to IL-4, IL-5 and IL-13
595	Mepolizumab:	a. binds to IL-5	b. binds to IL-4 and IL-13	c. binds to IgE	d. binds to IL-4, IL-5 and IL-13
596	To PCSK9 inhibitors belong:	a. mepolizumab	b. evolocumab	c. alirocumab	d. inclisiran
597	Evolocumab:	a. is administered s.c.	b. is administered i.v.	c. is administered p.o.	d. it is given once every 2 weeks
598	PCSK9 inhibitors:	a. they prevent the degradation of LDL receptors on the surface of the liver cells	b. they increase the degradation of LDL receptors on the surface of the liver cells	c. reduce circulating LDL cholesterol by 45-70%	d. reduce circulating LDL cholesterol by 10-20%
599	Denosumab:	a. is a monoclonal antibody that binds to RANKL	b. inhibits the maturation, function and survival of osteoclasts	c. prevents RANK receptor activation	d. increases RANK receptor activation
600	Osteonecrosis of the jaw can be caused by administration of:	a. omalizumab	b. zolendronic acid	c. denosumab	d. alirocumab
601	In the therapy of osteoporosis is used:	a. calcium	b. zolendronic acid	c. denosumab	d. vitamin D
602	Rituximab:	a. is anti-CD20 monoclonal antibody	b. it is used in the treatment of Non-Hodgkin's lymphoma	c. it is used in the treatment of previously untreated patients with follicular lymphoma stage III - IV	d. it is used in the treatment of rheumatoid arthritis

603	ADRs of rituximabu:	a. reactivation of hepatitis B	b. pancytopenia	c. can cause exacerbation of cardiovascular diseases	d. does not cause cardiovascular adverse effects
604	JAK inhibitors:	a. they belong to substances with a small molecular weight	b. they belong to substances with a large molecular weight	c. are administered p.o.	d. are administered s.c. or i.v.
605	To JAK inhibitors used in the treatment of rheumatoid arthritis belong:	a. infliximab	b. baricitinib	c. tofacitinib	d. adalimumab