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 biotransformation 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. a. dilates the arterial system	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 pulmonary embolism	b. prevention of stroke in non-valvular atrial fibrillation	c. treatment of deep vein thrombosis and pulmonary embolism	d. prevention of ischemic stroke in valvular atrial fibrillation

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	In 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 (first-generation atipsychotics) include:	a. chlorpromazine	b. haloperidol	c. ziprasidone	d. aripiprazol
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 treatment of absences in epilepsy:	a. sodium valproate	b. ethosuximide	c. carbamazepine	d. lamotrigine
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 in insulin therapy is increased by:	a. insufficient food intake	b. alcohol	c. excessive food intake	d. physical activity
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 microembolizatio n	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 following ADRs:	a. nausea	b. candidiasis	c. diarrhea	d. dental enamel discoloration

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 dabigatran treatment	b. in neurology they are used in the treatment of multiple sclerosis	c. their administration is associated with the risk of autoimmune diseases	d. chimeric monoclonal antibodies do not 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