



**The title of
document:**

**Exam Questions at Pharmacology for Students of the 3rd Year of the
Pharmaceutical faculty**

1. The definition of pharmacology, its objectives as a subject of study and as a science. Concepts of medicinal and pharmaceutical pharmacology. Purpose and tasks of pharmacology.
2. Pharmacology relations with medical-biological, clinical and pharmaceutical disciplines. Stages of introduction of new drugs into therapeutics, evaluation of efficacy and safety of medicines.
3. Recipe and its structure. General prescribing and delivery rules for medicines.
4. Solid pharmaceutical forms. the principles of prescribing.
5. Semisolid pharmaceutical forms. The particularities of prescribing.
6. Pharmaceutical forms. The particularities of prescribing.
7. Notion on pharmacokinetics, pharmacodynamics and pharmacology.
8. Classification of routes of administration of the drug in the body. Factors, which determine the choice of medication routes.
9. Particularities of the administration of drugs in the intestinal tract (oral, sublingual and rectal).
10. Informative presentation on the particularities of parenteral routes of administration of drugs.
11. Influence of food on the absorption and pharmacological effects of pharmaceuticals.
12. Absorption of drugs at different levels of the gastrointestinal tract.
13. The passage of drugs through biological membranes and barriers.
14. Notion on the bioavailability of medicines. Factors determining the bioavailability value.
15. The transport and distribution of drugs in the body.
16. The basic ways of biochemical transformation of drugs.
17. General notions about the induction and suppression of drug metabolizing enzymes. The importance of these phenomena in the manifestation of the pharmac-therapeutic and toxic effects of drugs.
18. Elimination of drugs in the body.
19. Pharmacoreceptors and their interaction with pharmaceuticals. Specific and non-specific action of drugs.
20. Pharmacokinetic drug interactions.
21. Pharmacodynamic drug interactions.
22. Notion on the dose of pharmacological preparations. Factors that determine the dose value. Dose classification criteria.
23. Types of doses depending on the therapeutic effect. Dose variation depending on mode of administration.
24. Reactions caused by repeated and long-term administration of drugs.
25. Drug addiction (drug addiction). Classification of preparations, capable of causing addiction.
26. The phenomena that occur with the associated drug administration.
27. Notion of pharmacological effects: curative and toxic, primary and secondary, predominantly.
28. Classification of undesirable reactions caused by drug use.
29. Classification of local anesthetics according to chemical structure and clinical use. Mechanism of action of local anesthetics. Indications.
30. Classification of cholinomimetics.
31. The action of M-cholinomimetics on the eye (change of pupil size, intraocular pressure, accommodation), on the smooth muscle of the internal organs, the secretion of the glands, the function of the heart. Indications.
32. Classification of anticholinesterases. Mechanism of action and the main effects of anticholinesterases. Indications.
33. Colino blocantele. Clasificarea.
34. The action of M-cholinoblocks on the eye (pupil diameter, intraocular pressure, accommodation),



CNS, SCV, bronchial tone, smooth digestive tract muscles, biliary and urinary tract, secretory activity of the glands (salivation, sweating, gastric, intestinal).

35. Indications and contraindications for the use of M-colinoblockers.

36. Classification of N-colinoblockers.

37. Ganglionic blockers. Mechanism of action. Action on SCV, smooth muscle activity, and gland secretion. Possible complications.

38. Muscle relaxants. Definition, classification according to the mechanism of action.

39. Mechanism of action of antidepolarizing agents. Possible complications and ways to combat them.

40. Classification of drugs that act on the transmission of nerve excitation in adrenergic synapses.

41. Influence of α - and β -adrenomimetics on the cardiovascular system, smooth muscle organs, metabolism. Indications. Contraindications. Adverse effects.

42. The action of α -adrenomimetics on systemic hemodynamics and vessel tonus. Indications and contraindications for administration.

43. The pharmacological effects of β -adrenomimetics. Indications and contraindications for administration. Adverse reactions.

44. Adrenoblockers. Classification.

45. The action of α -adrenoblockers on SCV and gastrointestinal tract. Indications and contraindications for use.

46. Classification of β -adrenoblockers.

47. Mechanism of action and main pharmacological effects of β -adrenoblocks.

48. Indirect adrenergic antagonists. Definition. Location and mechanism of action. Action on SCV, SNC, TGI, catecholamine content. The use. Adverse effects.

49. Hypnotics. Definition. Principles of classification.

50. Hypnotic barbiturates. Mechanism of action. Influence on the stages and stages of sleep.

51. Hypnotics - Benzodiazepine derivatives. Mechanism of action. Influence on the stages of sleep. Particularities of pharmacokinetics.

52. Preparations of various pharmacological groups, used as hypnotics.

53. Analgesics. Definition. Classification. Pharmacological properties of opioid analgesics and antipyretic analgesics.

54. Classification of opium alkaloids by chemical structure. Spectrum of pharmacological action.

55. Opioid analgesics. Definition. Classification. Mechanism of analgesic action of morphine. Action on CNS. Morphine action on SCV, respiratory system, TGI activity.

56. Acute morphine intoxication. Clinical picture. First Aid Measures. Antagonists of opioid analgesics.

57. Antipyretic analgesics. Classification. Particularities of analgesic action. The use.

58. Classification of anticonvulsants according to therapeutic indications.

59. Antiepileptics. Classification. Mechanism of action. Efficacy in various forms of epilepsy.

60. Drugs used to treat parkinsonism. Principles of drug correction of extrapyramidal disorders.

61. Psychotropic drugs. Definition. Classification.

62. Neuroleptics. Definition. The main biochemical mechanisms of neuroleptics. Pharmacological effects.

63. Indications for the administration of neuroleptics. Neuroleptanalgesia notion. Complications.

64. Anxiolytics. Definition. Classification. Mechanism of action of tranquilizers. Indications. The particularities of minor tranquilizers. Complications.

65. Sedatives. Definition. Classification. Influence on CNS excitement and inhibition. Complications.

66. Psychostimulants. Definition. Classification. Mechanism of action of psychostimulants.



Indications.

67. Antidepressants. Definition. Classification. Indications.

68. Nootrops. Definition. Classification. Mechanism of action. Clinical use.

67. Definition of hormonal and antihormonal drugs. Classification of hormonal drugs.

68. Hormonal preparations of adenohypophysis. Influence on internal secretion glands. Therapeutic indications.

69. Hormonal preparations of the middle and posterior pituitary of the hypophysis. Mechanism of action. Use in medical practice.

70. Hormonal preparations of the thyroid gland. Influence on metabolism and other effects. Indications.

71. Thyroid hormones antagonists. Definition. Classification. Mechanism of action. The use. Complications.

72. Influence of insulin on glucose, lipid and protein metabolism. Principles of insulin dosing in diabetes. Indications.

73. Synthetic hypoglycemic drugs for oral administration. Mechanism of action of sulfamides and biguanides. Therapeutic indications. Complications.

74. Hormonal preparations of corticoadrenal glands. Classification.

75. Mineralocorticoids. The main pharmacological effects. Administration in medical practice.

76. Glucocorticoids. Influence on glucose, lipid, SCV, CNS, mesenchymal tissue and blood system metabolism.

77. The main pharmacological effects of glucocorticoids and their mechanisms. Administration in medical practice.

78. Complications that occur with prolonged administration of glucocorticoids and their prophylaxis.

79. Preparations of female sex hormones. Classification. Mechanism of action. Therapeutic indications.

80. Antioestrogens. Mechanism of action. Use in medical practice.

81. Preparations of male sex hormones. Androgen action on the body. Indications.

82. Steroid anabolics. Definition. Classification. Indications and contraindications. Adverse effects.

83. The notion of vitamins, hypo- and hypervitaminoses, avitaminoses. Specific and non-specific treatment, prophylaxis.

84. Vitamin B preparations. Influence on metabolism, nervous system, cardiovascular and digestive, hematopoiesis, epithelial tissue and regeneration processes.

85. Ascorbic acid. Influence on metabolism, nervous system, cardiovascular and digestive, hematopoiesis, epithelial tissue and regeneration processes.

86. Retinol. Actions, synthesis of rhodopsin. Indications. Adverse reactions.

87. Ergocalciferol. The mechanism of action. Action on phosphorus and calcium metabolism. The negative action of increased doses of vitamin A and D.

88. Vitamin K. Haemostatic action. Indications. Adverse reactions.

89. Enzymatic drugs. Definition. Classification by clinical indication.

90. Nonenzymatic drugs. Definition. Pharmacological effects. Therapeutic indications.

91. Classification of antiatherosclerotic drugs. Efficacy in different types of dyslipidemia.

92. Antiallergic drugs. Classification of preparations.

93. Antihistamine drugs. Classification. Mechanism of action. The main pharmacological effects. Indications.

94. Antiallergic mast stabilizer cells. Mechanism of action and indications.

95. Mechanism of action of functional antagonists of allergy mediators (α -, β - and β 2-adrenomimetics, M-colinoblockers, xanthines, glucocorticoids).



96. The main drug substances that can cause anaphylactic shock. General principles of anaphylactic shock pharmacotherapy.
97. Immunostimulators. Definition. Classification. Mechanism of action. Indications.
98. Immunodepressants. Definition. Classification. Mechanism of action. Indications.
99. Classification of anti-inflammatory preparations.
100. Nonsteroidal anti-inflammatory drugs. Definition. Classification by chemical structure. The main pharmacological effects. Mechanism of action.
101. Indications for non-steroidal anti-inflammatory preparations. Adverse reactions.
102. Steroidal anti-inflammatory drugs. Mechanism of action. Indications. Adverse effects.
103. Antitussives. Definition. Classification. Mechanism of action. Indications. Adverse effects.
104. Expectorants and mucolytics. Definition. Classification. Mechanism of action. Indications.
105. Cardiotonic drugs. Definition. Classification. Differences between glycosidic and non-glycosidic cardiotonics.
106. Cardiac glycosides. Definition. Sources of production. Classification. Mechanism of positive inotropic action of cardiac glycosides. Modification of the main functional heart indices under the influence of cardiac glycosides.
107. Cardiac glycoside intoxication. Pathogenesis and symptomatology. First aid and prophylaxis.
108. Antiarrhythmic drugs. Definition. Classification.
109. Diuretics. Definition. Principles of classification.
110. Classification of diuretics.
111. Diuretics that act predominantly on glomeruli. Mechanism of action. Indications. Adverse effects.
112. Diuretics acting predominantly on proximal tubules. Mechanism of action. Therapeutic indications and complications.
113. Diuretics that predominantly act on distal tubules. Mechanism of action. Therapeutic indications and complications.
114. The characteristics of the antihypertensive properties of ganglionic blockers. Particularities of hypotensive action. Indications. Their complications and prophylaxis.
115. The brief characteristic of the antihypertensive activity of sympatholytics. Indications. Their complications and prophylaxis.
116. The antihypertensive effect of α -adrenoblocks and neuroleptics. The peculiarities of the action. The use.
117. Particularities of antihypertensive action of β -adrenoblocks. Their complications and prophylaxis.
118. Mechanism of antihypertensive action of calcium antagonists. The use.
119. Antihypertensive drugs acting on the smooth muscles of vessels (Vasodilators). Mechanism of action. Indications. Complications.
120. Diuretics used as antihypertensive drugs.
121. The brief characteristic of antihypertensive agents that inhibit the renin-angiotensin-aldosterone system. Indications. Adverse effects.
122. Drugs used in hypertensive crises. Particularities of the mechanism of action.
123. Hypertensive drugs. Definition. Classification by duration of action. Indications. Complications.
124. Drugs used in cerebral circulation disorders. Classification. Mechanism of action. Indications.
125. Drugs used in ischemic cardiopathy (antianginal). Definition. Classification.
126. Nitrates. Mechanism of antianginal action. Influence on hemodynamic indices and heart activity. Indications and contraindications for administration.
127. The brief characteristic of the antianginal action of β -adrenoblocks. Mechanism of action.



Indications. Contraindications.

128. Mechanism of antianginal effect of calcium antagonists. Action on heart rate and hemodynamics.

129. Antianginal drugs with predominant action on coronary vessels. Mechanism of action. The notion of "the phenomenon of theft". Action on heart activity.

130. Classification of drugs that affect blood coagulation.

131. Anticoagulants. Definition. Classification. Mechanism of action. Indications.

132. Drugs that reduce platelet aggregation. Mechanism of action. Particularities of acetylsalicylic acid dosing as an antiaggregate preparation.

133. Fibrinolytic agents. Definition. Classification. Indications. Adverse reactions.

134. Hemostats. Definition. Classification.

135. Coagulantete. Definition. Classification. Mechanism of action.

136. Hemostatics that intensify (stimulate) platelet aggregation and adhesion. Mechanism of action. Indications.

137. Hemostatics that inhibit fibrinolysis. Classification. Mechanism of action. Indications.

138. Hemostatics of plant origin. Pharmacological effects. The use.

139. Drugs that influence hematopoiesis. Classification.

140. Drugs used to treat iron deficiency anemia. Mechanism of action. Adverse reactions.

141. Drugs that stimulate leucopoiesis. Mechanism of action. Indications. Adverse effects.

142. Drugs that inhibit leukopoiesis. Mechanism of action. Indications. Adverse effects.

143. Classification of drugs used in the treatment of gastrointestinal tract disorders.

144. Drugs with influence on appetite. Classification. Mechanism of action. Indications and contraindications. Adverse reactions.

145. Informative presentation of drugs that inhibit the secretion of stomach glands: colinoblockers, antagastrins, H2 blockers of histamine receptors, proton pump inhibitors. Indications.

146. Drugs that neutralize gastric acid (antacids). Classification. Particularities of the action of the preparations.

147. Drugs that stimulate the regeneration process of the gastroduodenal mucosa. Mechanism of action. Indications.

148. Drugs used in reduced secretion of the pancreas.

148. Colagoge drugs. Definition. Classification. Indications.

149. Hepatoprotectors. Definition. Classification.

150. Laxatives. Definition. Classification by action mechanism. Indications.

151. Emetics. Definition. Classification. Indications.

152. Antivomitive drugs. Definition. Classification. Indications.

153. Anti-diarrheals. Classification. Mechanism of action. The use.

154. Antiseptics and disinfectants. Definition. Classification by chemical structure. The main mechanisms of action.

155. Metal compounds. Effects. The general characteristic of resorbitive action. Symptoms of intoxication. Healthcare.

156. Antiseptics and disinfectants - halogen compounds. Particularities of action and use of chlorine and iodine compounds.

157. Oxidants. Mechanism of action. Indications.

158. Detergents. Classification. Mechanism of action.

159. Antiseptics of the aromatic and aliphatic chain. Particularities of action and use.

160. Colorants, acids and bases used as antiseptics and disinfectants. The use.

161. Derivatives of nitrofurantoin used as antiseptics and disinfectants. Mechanism of antimicrobial effect. Indications.



162. Notion of chemotherapy, chemoprophylaxis and chemotherapeutic drugs. General principles of rational chemotherapy.
163. Antibiotics. Definition. Principles of classification.
164. β -lactam antibiotics. Penicillins. Classification. Mechanism and spectrum of antimicrobial action. Indications. Adverse reactions.
165. Cephalosporins. Mechanism and spectrum of antimicrobial action. Indications. Adverse reactions.
166. Monobactam, carbapenems and carbapenems. Mechanism and spectrum of antimicrobial action. Indications.
167. Macrolides and azalides. Mechanism and spectrum of antimicrobial action. The use.
168. Aminoglycosides. Mechanism and spectrum of action. Particularities of the 1st, 2nd and 3rd generation aminoglycosides. Indications for administration.
169. Tetracyclines. Mechanism and spectrum of antimicrobial action. Indications. Complications.
170. Chloramphenicol. Spectrum and mechanism of action. Instructions for administration. Complications.
171. Polypeptide antibiotics. Mechanism and spectrum of antimicrobial action. Indications.
172. Glycoproteins and lincosamides. Mechanism and spectrum of antimicrobial action. Indications. Adverse reactions.
173. Antimicrobial Sulfonamides. Definition. Principles of classification.
174. Mechanism of antimicrobial action of sulfonamides. Particularities of the action of Cotrimoxazole. Indications. Possible complications and their prophylaxis.
175. Nitrofurantoin derivatives. Spectrum of action. Indications. Adverse effects.
176. Quinolones. Spectrum of action. Usage for administration. Adverse effects.
177. Quinoxaline derivatives (nitrofurantoin, dioxidine), 4-oxyquinoline (oxolinic acid). Spectrum of action. Indications. Adverse effects.
178. 8-Oxyquinoline derivatives. Spectrum of action. Indications. Adverse effects.
179. Antibacterial properties of nitroimidazole derivatives (metronidazole) and thiosemicarbazone (faringosept).
180. Antitubercular drugs. Classification after clinical efficacy. Indications. Adverse reactions.
181. Antispirochete drugs. Medication of syphilis, leptospirosis, recurrent typhus. Mechanism of action of the preparations.
182. Antiviral drugs. Mechanism of action. Properties and use of interferon.
183. Classification of antiprotozoa drugs. Medication of malaria, amebiasis, giardiasis, trichomoniasis and toxoplasmosis
184. Antifungal drugs. Classification, spectrum of action, indications, adverse effects.
185. Anthelmintics. Classification. Mechanism and principles of use.
186. Acute drug intoxication. General principles of treatment of acute drug intoxications.

II. To prescribe:

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| 1. Acyclovir. | 8. Ambroxol. | 16. Benzylpenicillin sodium. |
| 2. Acetylsalicylic acid. | 9. Aminophylline. | 17. Captopril. |
| 3. Aminocaproic acid. | 10. Amitriptyline. | 18. Carbo activated. |
| 4. Ascorbic acid. | 11. Amoxicillin. | 19. Cefazolin. |
| 5. Nicotinic acid. | 12. Aprotinin. | 20. Cyclophosphamide. |
| 6. Valproic acid. | 13. Atenolol. | 21. Ciprofloxacin. |
| 7. Acetaminophen
(Paracetamol). | 14. Atropine sulfate. | 22. Chlorpheniramine. |
| | 15. Benzyl benzoate | 23. Chlorpromazine |



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| 19. Clotrimazole. | 32. Gentamicin. | 46. Omeprazole. |
| 20. Dexamethasone | 33. Glibenclamide. | 47. Oxytocin. |
| 21. Diazepam. | 34. Heparin. | 48. Pentoxifylline. |
| 22. Diclofenac sodium. | 35. Hydrocortisone. | 49. Potassium permanganate. |
| 23. Digoxin. | 36. Insulin. | 50. Pyridoxine hydrochloride. |
| 24. Droperidol. | 37. Levamisole. | 51. Platifilin hydrotartrate. |
| 25. Drotaverine. | 38. Levothyroxine.Lidocaină. | 52. Prednisolone. |
| 26. Doxycycline. | 39. Loperamide. | 53. Procaine. |
| 27. Epinephrine (Adrenaline hydrochloride). | 40. Magnesium sulfate. | 54. Protamine sulphate. |
| 28. Erythromycin. | 41. Mannitol. | 55. Ranitidine. |
| 29. Estradiol. | 42. Metoclopramide. | 56. Rifampicin. |
| 30. Phenylephrine (Mezaton). | 43. Metronidazole. | 57. Alcoholic iodine solution. |
| 31. Furosemide. | 44. Methotrexate. | |
| | 45. Neostigmine. | |

III. Indicate the preparations used in (for):

Local anesthesia. Anaphylactic shock. Arrhythmias. Hypertension. Hypotension. The intestinal atony. Insomnia. Bronchial asthma. Herpes. Hyperthyroidism. Hypoglycemia. Glaucoma. Headache. Dermatomycosis. Diabetic coma. Diarrhea. Iron deficiency anemia. Constipation. Dental pain. Myocardial infarction. Ischemic heart disease. Candidiasis. Capillary haemorrhage. Motion sickness. Dermatitis. Conjunctivitis. Urticaria. Fever. Flatulence. Myasthenia. Migraine. Myositis. Deregulation of falling asleep. Insufficiency of cerebral circulation. Dehydration of the body. Collapse. Processing of medical instruments. Wound processing. Acute heart failure. Acute pancreatitis. Acute rhinitis. Pulmonary edema. Gout. Liver colic. Pyelonephritis. Kidney colic. Imminence of abortion. Influenza prophylaxis. Rheumatism prophylaxis. Thrombosis prophylaxis. Psychomotor agitation. Rickets. Vomiting. Rheumatoid arthritis. Angina pectoris access. Seizures. Dry cough. Pulmonary artery thrombosis. Tuberculosis. Chronic heart failure. Chronic pancreatitis. Scurvy. Peptic ulcer.

The questions were discussed and approved at the meeting of the Department of Pharmacology and Clinical Pharmacy of "16" May 2018, Protocol no. 18.

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