

## STATE EXAMINATION

### SYNOPSIS OF PHARMACOLOGY AND TOXICOLOGY

1. Pharmacodynamics - receptors, agonists and antagonists. Targets for the drug action.
2. Pharmacokinetics: routes of administration, resorption, distribution, plasma protein binding.
3. Elimination of drugs - metabolism and excretion. bioequivalence
4. Factors affecting the pharmacological and toxic effects of drugs.
5. Anxiolytics, sedatives, hypnotics and antipsychotics.
6. Antidepressants, psychostimulants and nootropic drugs
7. Drugs for the treatment of epilepsy and neurodegenerative diseases.
8. Antiasthmatic and other drugs affecting the respiratory system.
9. Antiallergic drugs - H1 antagonists and glucocorticosteroids.
10. Drugs affecting inflammation and pain - NSAIDs, opioid analgesics and glucocorticosteroids.
11. Drugs affecting the digestive system - antiulcer, antiemetics, laxatives and antidiarrheal drugs.
12. Drugs affecting hematopoiesis, blood clotting, platelet aggregation and fibrinolysis.
13. Inotropic agents - sympathomimetics, cardiac glycosides, phosphodiesterase inhibitors.
14. Antihypertensive drugs and diuretics.
15. Antiarrhythmic and anti-anginal drugs.
16. Antihyperlipidemics and hepatoprotectors.
17. Drugs affecting thyroid function and drugs for the treatment of osteoporosis.
18. Antidiabetic drugs.
19. Sex hormones and antihormones. Contraceptives and drugs for the treatment of erectile dysfunction.
20. Beta-lactam and glycopeptide antibiotics.
21. Aminoglycosides, tetracyclines, macrolides and lincosamides. Antimycobacterial drugs.
22. Fluoroquinolones, sulfonamides and trimethoprim. Antifungals.
23. Anticancer drugs.
24. Antiviral drugs and immunomodulators.

25. Drug interactions and resistance.
26. Adverse drug reactions: types and mechanisms.
27. Drug abuse and drug dependence. Addiction. Withdrawal syndrome.
28. Acute drug intoxications. Antidotes.
29. Toxicology of environmental factors: arsenic and heavy metals, pesticides.
30. Toxicology of environmental factors: toxic gases, organic solvents, alcohols.

**Recommended literature:**

Katzung BG, Trevor AJ. Basic & Clinical Pharmacology, 14<sup>th</sup> Edition: McGraw-Hill Education; 2017.

Brunton L, Chabner BA, Knollman B. Goodman and Gilman's The Pharmacological Basis of Therapeutics, Twelfth Edition: McGraw-Hill Education; 2011.

Ritter, J. Rang and Dale's Pharmacology 9<sup>th</sup> edition.). Edinburgh: Elsevier; 2020.