

CONTEST TOPICS
for the position of associate professor
position17, pharmacology discipline

1. General pharmacology: definition and branches.
2. General pharmacokinetics: definitions, pharmacokinetic processes. Absorption of drugs. Ways of administration, particularities, mechanisms. The effect of the first passage. Factors influencing absorption and bioavailability. Distribution of drugs in the body. Transport in the blood. Biotransformation of drugs: stages, mechanisms, factors, induction and enzyme inhibition, types of reactions. Elimination pathways, features, mechanisms.
3. General pharmacodynamics: definitions; drug dose, dose-effect relationships, potency, efficacy, mechanisms of action of drugs. Drug receptors - definition, structure, "up" and "down regulation", mechanisms of action. Factors that influence the pharmacodynamic action - factors related to the drug, the body. Ligand: definition, types of ligands, antagonistic relationships, synergism between drugs.
4. General pharmacotoxicology. Adverse drug reactions. Types, mechanisms, effects.
5. Vegetative nervous system - anatomical-physiological and pharmacological bases. Cholinergic vegetative nervous system: synthesis, storage, release of acetylcholine, cholinergic receptors, types, cholinergic effects. Direct acetylcholinomimetics. Cholinesterase inhibitors. Muscarinicholinolitics. Ganglioblocks. Curare-like compounds.
6. Adrenergic vegetative nervous system. Synthesis, storage, release of catecholamines, adrenergic receptors, types, adrenergic effects. Direct, indirect, mixed adrenomimetics. Alpha-adrenolytic, beta-adrenolytic, alpha + beta.
7. Exciting CNS. Neurotonics.
8. General anesthetics. Local anesthetics.
9. Hypnotics, sedatives, minor tranquilizers (anxiolytics).
10. Anticonvulsants, antiepileptics. Central muscle relaxant. Medication of Parkinson disease.
11. Medication for CNS degenerative disorders (Alzheimer's disease, Huntington's disease, amyotrophic lateral sclerosis)
12. Neuroleptics. Antidepressants and drugs.
13. Opioid analgesics and antagonists.
14. Analgesics, antipyretics, non-steroidal anti-inflammatory drugs.
15. Histamine. Antihistamines.
16. Serotonin. Serotonin agonists and antagonists. Bradykinin and antagonists.
17. Prostaglandins.
18. Digitalis and other positive inotropic drugs.
19. Antiarrhythmics.
20. Antianginal. Vasoconstrictors. Anti-ischemic vasodilators. Vein and capillary medication.
21. Diuretics. Antidiuretics.
22. Antihypertensive.
23. Blood medication: antianemics, growth factors, hemostatics, anticoagulants, thrombolytics and antiplatelet agents.
24. Respiratory medication (antitussive, expectorant, antiasthmatic, pulmonary surfactant, respiratory analeptic).
25. Antiulcer medication (antisecretors, antacids, protectors of the gastric mucosa). Stimulants and substitutes for digestive secretions.
26. Vomiting and anti-vomiting. Laxatives and purgatives. Digestive motility stimulants. Antidiarrheal.
27. Antibiotics and antimicrobial chemotherapeutics - general.
28. Beta-lactam antibiotics: Penicillins, Cephalosporins, Carbapenems, Monobactams.
29. Antibiotics: Aminoglycosides. Tetracyclines and Chloramphenicol. Macrolides. Oxazolidinone. Streptogramins. Glycopeptide, Lincosamide. Polymyxin and Bacitracin.

30. Active chemotherapeutics in tuberculosis and leprosy. Antibacterial sulfamides and trimethoprim. Quinolones and fluoroquinolones, nitrofurans, quinoline derivatives, imidazole, formaldehyde, other antimicrobials.
31. Antifungal chemotherapeutics. Antiviral chemotherapeutics. Chemotherapeutic agents active against protozoa. Anthelmintics.
32. Antiseptics, disinfectants and parasiticides.
33. Anticancer chemotherapeutics.
34. Immunomodulators, immunosuppressants, immunostimulants.
35. Hypothalamus, pituitary hormones.
36. Sex hormones and similar preparations. Sex hormone antagonists.
37. Glucocorticoids. Mineralocorticoids.
38. Thyroid hormones and antithyroid medication.
39. Lipid-lowering, cholesterol-lowering medication.
40. Vitamins.

REFERENCES

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