MUNI
PHARM

Final State Examination topics for Master's degree programme Pharmacy

PHARMACOLOGY, MEDICINAL CHEMISTRY, PHARMACOGNOSY

revision: 2023

topic a) = Pharmacology + Medicinal Chemistry
topic b) = Pharmacognosy

1. a) General anesthetics
   b) Ethanol, Cannabis, Opium

2. a) Analgesics: opioid analgesics, analgesics-antipyretics
   b) Opioid analgesics (*Papaver somniferum*, opium alkaloids, opioid peptides), plant analgesics antipyretics (*Salix*, quinine)

3. a) Antiulcer drugs
   b) Polysaccharides, mucilages, pectin, alginic acid; glycyrrhizin

4. a) Antianaemics
   b) Plant glycosides – characteristics, difference in glycosides and aglycones

5. a) Antiarrhytmics
   b) Quinidine, ajmaline, sparteine, digitoxin

6. a) Antiasthmatics
   b) Ephedrine, methylxanthines – theophylline, caffeine; spasmolytics atropine, scopolamine, khelline

7. a) Beta-lactame antibiotics, peptide antibiotics
   b) Terpenic and steroidal alkaloids (*Aconitum, Solanum, Veratrum*)

8. a) Tetracyclins, amphenicols, aminoglycosides, macrolides, lincosamides
   b) Flavonoids in general, rutosid, diosmin, hesperidin, quercitrin

9. a) Drugs affecting blood clotting
   b) Heparins, heparinoids, protamine, derivatives of coumarine, hirudin; fibrinolytics

10. a) Laxatives, antidiarrhoics
    b) Anthraglycosides – *Cassia, Rheum, Frangula*; mucilages - *Psyllium*; tannins

11. a) Antidiabetics
    b) Adjuvant therapy of DM2, inulin, sweeteners

12. a) Antiepileptics
    b) Essential oils in general, occurrence, formation, usage

13. a) Antimycotics, antiviral drugs
    b) Unsaturated fatty acids; prostaglandins

14. a) Antiparkinsonics
    b) Tropane alkaloids

15. a) Drugs used in rheumatic disease (NSAID, SYSADOA)
    b) *Salix, Salvia, Hypericum, Matricaria, Aesculus, Colchicum*

16. a) Antitussives (cough suppressants), expectorants, mucolytics
    b) Central antitussics, local antitussics; expectorants – mucolytics, secretolytics, secretomotorics, mucilages

17. a) Therapy of heart failure
    b) *Digitalis, Strophanthus, Scilla*

18. a) Antibacterial chemotherapeutics: sulfonamides, quinolones
    b) Saponins in general, occurrence, formation, usage

19. a) Tuberculostatics, antileprotics
    b) Medicinal cannabis; animal poisons used in therapy

20. a) Anticancer drugs
    b) Inhibitors of mitosis – *Colchicum, Catharanthus, Taxus*; intercalation agents and inhibitors of topoisomerase – camptothecines, epipodophyllotoxin derivatives

21. a) Cholagogues, choleretics, hepatoprotectives, deflatulents, digestive enzymes, weight-affecting drugs
    b) Therapeutics affecting digestion, motoric activity of GIT, laxatives, hepatoprotectives, cholagogues

22. a) Diuretics
    b) Diuretics – essential oils, flavonoids, saponins

23. a) Parasympathotropic drugs: parasypathomimetics (cholinergics) and parasypatholytics (cholinolytics)
    b) Direct parasympathomimetics – pilocarpine, arecoline, muskarine, nicotine; indirect – physostigmine, galanthamine; parasympatholytics - tropane alkaloids

24. a) Corticosteroids
    b) Plant steroids

25. a) Osteoporosis therapy, drugs affecting calcium metabolism
    b) Liquiritiae radix, plant estrogens

26. a) Hypnotics, sedatives, anxiolytics
    b) Plant sedatives – *Valeriana, Humulus, Melissa, Passiflora, Hypericum*

27. a) Antihypertensive agents
    b) *Rauwolfia serpentina, Veratrum album, Crataegus oxyacantha, Viscum album*

28. a) Local anaesthetics
    b) Cocaine, menthol; plant derivants – essential oils, thioglycosides, capsicin

29. a) Muscle relaxants, spasmolytic agents
    b) Peripheral myorelaxants (curare, plant sources, tubocurarine, C-toxiferin)

30. a) Oftalmologics
    b) Pilocarpine, physostigmine, galanthamine, atropine, cocaine

31. a) Sympathomimetics (adrenergics)
    b) Ephedrin, khat; native and DH-derivatives of ergot alkaloids as sympatholytics

32. a) Vasoactive drugs, venous insufficiency therapeutics
    b) Flavonoids-rutosid, diosmin; vasodilatants – theophylin, papaverin, visnadin, vincamin, ginkgolides

33. a) Sympatolytics (antiadrenergics)
    b) *Secale cornutum* – occurrence, content compounds, formation, usage

34. a) Vitamines
    b) Natural scources of vitamines

35. a) Drug Treatment of Alzheimer's disease
    b) Purine bases, cholinergics

36. a) Antidepressant drugs
    b) Plant sedatives

37. a) Drugs used in psychoses
    b) Plant psychodysleptics

38. a) Immunosupresives, immunomodulatory drugs
    b) Polysaccharides of fungi – glucans, lentinans

39. a) Hypolipidemics
    b) Polysaccharides – cellulose, pectin, gumms; β-sitosterol; soya lecithin; choleretics; statins

40. a) Antihistaminics
    b) Herbal tea

General topics:
- Dependence of effect and kinetics on dose and way of administration
- Pharmakokinetic parameters
- Factors affecting pharmacotherapy individualization