

**Pharmacognosy**  
**Final examination**  
**2020.**

1. History of pharmacognosy, medicinal plants – herbal/crude drugs: nomenclature, classification.
2. From plants to phytopharmaceuticals. Sources of herbal drugs, factors involved in their production. Quality control of crude drugs.
3. Compounds of primary metabolism. Carbohydrates. Mono- and oligosaccharides and their drugs. Homogenous polysaccharides and their drugs.
4. Heterogenous polysaccharides: gums, neutral and acidic mucilages, pectins. Polysaccharides of algae.
5. Chemical characterization of lipids, vegetable oils, alkyne derivatives.
6. Compounds of special (secondary) metabolism. Crude drugs containing simple phenolic glycosides, benzoic and cinnamic acids and their esters.
7. Coumarins and coumarin containing crude drugs: medicinal application and toxicity.
8. Lignans and lignan containing crude drugs. Therapeutic potential of lignans. Flavonolignans and their pharmaceutical significance.
9. Flavonoids: biosynthesis, chemical structure and classification, biological activities, medicinal application and therapeutic significance of flavonoid containing crude drugs.
10. Isoflavonoids and rotenoids: chemistry and therapeutic significance. Anthocyanins and the chief anthocyanin containing crude drugs.
11. Polyphenols in the Zingiberaceae family: diarylheptanoids and arylalkanones. Herbal drugs containing diarylheptanoids and arylalkanones.
12. Tannins: Classification and therapeutic significance. Structure and properties of hydrolysable and condensed tannins. Chief tannin containing crude drugs.
13. Laxative hydroxyanthraquinone glycosides. Pharmacological properties. Main crude drugs containing hydroxyanthraquinone glycosides.
14. Naphthoquinone containing crude drugs. Naphthodianthrone containing crude drugs. Orcinols and phloroglucinols.
15. Biosynthesis of terpenoids. Essential oils in the plant kingdom and their therapeutic significance.
16. Monoterpene containing essential oils and their chief drugs.
17. Volatile phenylpropane derivatives, essential oils containing sesquiterpenes. Balms, resins.
18. Iridoids, sesquiterpene lactones and diterpenes. Bitter substances and their chief drugs.
19. Triterpene and steroid saponin compounds and their chief drugs.
20. Cardioactive glycosides, (unusual) herbal steroids and their chief drugs.

21. Alkaloids derived from ornithine and lysine and their chief drugs.
22. Alkaloids derived from tryptophan and their chief drugs.
23. Alkaloids derived from phenylalanine (tyrosine, DOPA) and their chief drugs.
24. Phenylalanine-derived protoalkaloids and their chief drugs.
25. Pseudoalkaloids and their chief drugs.
26. Terpene-derived alkaloids and their chief drugs.
27. Cyanogenic glycosides, glucosinolates and their chief drugs.
28. Plant biotechnology.