



Syllabus

1. Goals, subfields and methods in botany. Pharmaceutical botany – significance of medicinal plants. Plant cell – shape, size, building blocks, plant-specific structures.
2. Cell wall – function, chemical composition, cell wall growth and changes in the chemical composition.
3. Plastids – types structure and functions.
4. Vacuole – structure, functions and chemical composition of the vacuolar content. Inclusions.
5. Plant tissues – Meristems (characteristics, classification, functions).
6. Parenchyma – structure, characteristics and functions.
7. Dermal tissues – epidermis and epidermal structures – structure, main and accessory functions. Bark – structure and function.
8. Supportive tissues – structure, function and types.
9. Vascular tissues – types and function. Vascular bundles – structure of open and closed bundles.
10. Secretory tissue – functions and types secretory structures.
11. Plant organs – classification. Root (*Radix*) – morphology, anatomy and functions.
12. Stem (*Caulis*) – morphology and anatomy, functions.
13. Leaf (*Folium*) – morphology and anatomy, functions.
14. Metamorphoses of vegetative organs. Modified roots, stems and leaves – types and function.
15. Flower (*Flos*) – morphology and anatomy. Types of flowers. Inflorescences (*Inflorescentia*) – types. Pollination.
16. Seed (*Semen*) and fruit (*Fructus*) – development and structure. Types of fruits – classification. Fruit and seed dispersal.
17. Botanical classification (taxons and taxonomic categories). Botanical nomenclature. Prokaryotic algae (Cyanobacteria, Cyanoprokaryota) – general characteristics, representative taxa and importance to humans.
18. Eukaryotic algae (*Rhodophyta*, *Phaeophyta* and *Chlorophyta*) – general characteristics, representative taxa and importance to humans.
19. Spore-bearing plants (*Bryophyta*, *Lycopodiophyta*, *Equisetophyta* and *Polypodiophyta*) – general characteristics and medicinal plants.
20. Seed plants (*Magnoliophyta*) – general characteristics, classification. Gymnosperms (Families *Ginkgoaceae*, *Pinaceae*, *Cupressaceae*, *Taxaceae* and *Ephedraceae*) – general characteristics, agricultural and medicinal representatives.
21. Angiosperms. *Magnoliopsida* – general characteristics. Families *Magnoliaceae*, *Lauraceae* and *Ranunculaceae* – general characteristics, agricultural and medicinal species.
22. Families *Berberidaceae* and *Papaveraceae* – general characteristics and medicinal plants.
23. Families *Fagaceae*, *Betulaceae* and *Juglandaceae* – general characteristics, medicinal and agricultural species.
24. Families *Caryophyllaceae*, *Polygonaceae* and *Chenopodiaceae* – general characteristics, medicinal and agricultural species.
25. Families *Hypericaceae*, *Ericaceae* and *Primulaceae* – general characteristics and medicinal plants.
26. Families *Violaceae*, *Salicaceae* and *Cucurbitaceae* – general characteristics, medicinal and agricultural species.



27. Families *Brassicaceae* and *Malvaceae* – general characteristics, medicinal and agricultural species.
28. Families *Moraceae*, *Cannabaceae* and *Urticaceae* – general characteristics, agricultural and medicinal species.
29. Families *Euphorbiaceae* and *Rosaceae* – general characteristics, medicinal and agricultural species.
30. Families *Fabaceae* and *Aceraceae* – characteristics, medicinal and agricultural species.
31. Families *Hippocastanaceae*, *Rutaceae* and *Anacardaceae* – general characteristics and medicinal plants.
32. Families *Linaceae*, *Geraniaceae* и *Rhamnaceae* – general characteristics and medicinal plants.
33. Families *Cornaceae*, *Araliaceae* and *Apiaceae* – general characteristics, medicinal and agricultural species.
34. Families *Caprifoliaceae*, *Valerianaceae* and *Rubiaceae* – general characteristics and medicinal species.
35. Families *Solanaceae*, *Convolvulaceae* and *Cuscutaceae* – general characteristics, medicinal and agricultural species.
36. Families *Boraginaceae*, *Scrophulariaceae* and *Plantaginaceae* – general characteristics and medicinal plants.
37. Families *Lamiaceae* and *Asteraceae* – general characteristics, medicinal and agricultural species.
38. *Liliopsida* – general characteristics. Families *Melanthiaceae*, *Iridaceae*, *Liliaceae*, *Aliaceae* – general characteristics, medicinal and important species.
39. Families *Amaryllidaceae*, *Asparagaceae*, *Dioscoreaceae* and *Orchidaceae* – general characteristics and medicinal plants.
40. Families *Poaceae* and *Araceae* – general characteristics, important food and medicinal plants.
41. Morphology and Systematics of Fungi. Medicinal, toxicological, and pharmaceutically significant species

Prepared by: Lecturers of the course “Pharmaceutical Botany”

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