Conspectus /Summary/

Lecturer: Prof. Stefan Nikolov DSci.

1. PARMACOGNOSY. Nature and subject matter. Aims and objectives..Connected with basic disciplines. A briff history in development on knowledge to the medicinal plants. Current state and trends. Future. Herbal substances Definet the name by Herbal substances. Herbal preparations. Herbal medicinal product. Value of Natural drug products. Chemical constituents of medicinal plants. Active constituents and inert substances. Farmacognostic analysis and methods of conducting. Classification of the Herbal substances.
2. CARBOHYDRATE. Definitions. Distributed and important. Classification. Monosaccharides. Classification. Chiral carbon atoms. Structures of important monosaccharides. Cyclic structures. Monosaccharides and their derivatives. Herbal substances and products containing monosaccharides. Oligosaccharides.
3. POLYSACCHARIDES. Definitions. Distributed and important. Nomenclature and classified. Physical and Chemical Properties. Homoglycan. Glucans and fructans. Herbal substances and products containing them.
4. HETEROGLYCAN. Pectic substances. Hemicellulose, glucomannans, galactomannans. Polysaccharides from seaweed. Gums. Mucilage. Herbal substances and products containing them with application in pharmacy and medicine.
5. LIPIDS. Definitions. Fixed oils and fats. Distributed. Separation. Chemical constituents. Properties. Classfied. Important fats and fixed oils. Used. Fixed oils and Fats with special therapeutic properties.

Lecturer: Prof. Iliana Ionkova DSci.

6. PLANT CELL CULTURES - Basic knowledge of plant cell cultures for production of biological active compounds
7. GLYCOSIDES – Definition, Classification, Physical and Chemical Properties, Extraction and isolation of glycosides, Qualitative Tests, Function to Plants, Medicinal importance and use of glycosides
8. PHENOLS AND PHENOLIC GLYCOSIDES – Clasification, Plant sources of simple phenols, Biphenylpropanoid Derivatives (Lignans and Lignins), Plant sources of Lignans and Related Compounds
9. COUMARINS (1,2-BENZOPYRONE) AND GLYCOSIDES - Definition and formation, Distribution in plant species, Chemical structure and classification, Physico-chemical properties, extraction, characterization, quantification, Biological properties, pharmacological properties and therapeutic uses, Herbs containing coumarins and glycosides.
10. FLAVONOIDS – Definition, Occurrence, Flavonoid Functions in Plants, Chemical Structure and Classification of Flavonoids, Physico-chemical properties, separation and extraction, Biological Properties, Therapeutic Uses, Toxicology, Flavonoid Containing Drugs – examples.

Lecturer:Doz.dr. Ilina Krasteva.

11. FLAVONES, FLAVONOLS, FLAVANONES, FLAVANONOLS and plant substances containing these groups.
12. ISOFLAVONOIDS, PROANTHOCYANINIDINS, ANTHOCYANIDINS and plant substances, containing these groups.
13. QUINONES, BENZOQUINONES, NAPHTHOQUINONES, ANTHRAQUINONES: chemical structure, classification, distribution, properties, methods for isolation and analysis, activity and application. Plant substances, containing anthraquinones.
14. TANNINS: definition, classification, distribution, properties, methods for isolation and analysis, effects and application. Hydrolysable and condensed tannins. Plant substances, containing tannins.
15. CARDIAC GLYCOSIDES: definition, chemical structure, classification, distribution and localization, properties, isolation, methods of analysis, pharmacological effects. Plant substances, containing cardiac glycosides.

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16. SAPONINS. Definition. Properties. Structure. Classification. STEROIDAL SAPONINS /furostanols and spirostanols type/. Properties. Distribution. Action and implementation. Herbal substances containing them.
17. TRITERPENOIDAL SAPONINS. Classification. Properties. Distribution. Action and uses. Herbal substances containing them.
18. TERPENS. Classification. Distribution. Monoterpens /acyclic, monocyclic, aromatic, bicyclic, cyclopropane and derivatives/. Iridoids. Classification. Distribution. Action and implementation. Sesquiterpens. /acyclic, monocyclic and bicyclic and derivatives/. Sesquiterpen lactones Classification. Distribution. Therapeutic Uses,.Diterpens, Triterpens, Tetraterpens and Polyterpens.
19. ESSENTIAL OILS. Definition. Chemical composition. Classification. Secretory structures of occur. Dissemination. Methods for obtaining. Properties. Standardisation and control. Medicinal and commercial uses.
20. HERBAL SUBSTANCES AND OILS CONTAINING MONOTERPENS, SESQUITERPENS AND PHENYLPROPANE.

Lecturer:Doz.dr. Ilina Krasteva.

21. ALKALOIDS: definition, classification, distribution and localization, properties, methods for isolation and analysis, action and application. Plant substances containing carbocyclic alkaloids.
22. PYRROLIDINE, PYRROLYZIDINE, PYRIDINE, PIPERIDINE AND TROPANE ALKALOIDS - chemical structure, distribution, pharmacological activity. Plant substances containing these groups.
23. QUINOLIZIDINE AND QUINOLINE ALKALOIDS - chemical structure, distribution, pharmacological activity. Plant substances containing these groups.
24. ISOQUINOLINE ALKALOIDS FROM TETRAHYDROISOQUINOLINE, BENZYLISOQUINOLINE, BENZYLTETRAHYDROISOQUINOLINE

AND MORPHINANE GROUPS – chemical structure, pharmacological activity. Plant substances containing these groups.

25. APORPHINE, PROTOBERBERINE AND PROTOPINE GROUPS – chemical structure, pharmacological activity. Plant substances containing these groups.

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26. BENZOPHENANTHRIDINE, PHENANTHRIDINE, ISBENZYLISOQUINOLINE, EMETIN ALKALOIDS – Definition, Chemical Structure, Biological Properties, Containing Drugs – examples.
27. INDOLE ALKALOIDS – Classification, Indol alkaloids from indolil alkil amine group - Containing Drugs, Rauvolfia alkaloids.
28. INDOLE ALKALOIDS, ERBUNAMINE GROUP - Vinka alkaloids, Catharanthus alkaloids, Nux-vomica alkaloids, Imidazole Alkaloids.
29. ERGOT ALKALOIDS – Definition, Chemical Structure, Biological Properties, Containing Drugs – examples.
30. PURINE ALKALOIDS – Definition, Chemical Structure, Biological Properties, Containing Drugs – examples.

References

1. Tyler V. E., Brady L. R., Robbers J. E., PARMACOGNOSY – 9th edition.
2. Robbers J. E., Speedie M. K., Tyler V. E., PARMACOGNOSY AND PHARMACOBIOTECHNOLOGY, Williams & Wilkinsq 1996.
3. Barnes J., Anderson L. A., Phillipson J. D., HERBAL MEDICINES – 3th edition, Pharmaceutical Press, 2007.
4. Bisset N. G., Wichtl M., HERBAL GRUGS AND PHYTOPHARMACEUTICALS, CRC Press, 2001.