Class 8

Analysis medicinal plant material containing tannins(I).

QUESTIONS:

1.Tannins. Classification.

2.Physico-chemical properties of tannins.

3.Distribution in the plant world. Localisation.

4.Medicinal plants and raw materials containing tannins:

- oak;
- Castor bean tree,
- Common smoke tree

5.Formulas: catechin, pyrogallol, pyrocatechin, phloroglucin, gallic and ellagic acids.

Work 1. Morphological and anatomical analysis of raw materials "Oak bark"

Examine the herbarium of the producing plant, identifying diagnostic features for its recognition in nature.

Describe the raw material, paying attention to the character of the outer and inner surface, fracture (diagnostic features).

Make thin cross-sections of the bark, having previously boiled for 5-10 minutes in water. Examine at low and high magnification of the microscope, find and sketch diagnostic signs.

Carry out pharmacopoeial qualitative reaction, write down the result, draw a conclusion.

Study the FS "Oak bark" GF XIV edition, compare your results with the requirements of ND. Study the numerical values.

Make a conclusion about the authenticity of raw materials.

Chemical composition:

Standardisation:

Pharmacological action:

Uses:

Work 2. Morphological and anatomical analysis of raw material "Common smoke leaves"

Examine the herbarium of the producing plant, highlighting diagnostic features to recognise it in nature.

Describe the raw material. For macroscopic analysis, pre-soak the leaf in hot water (until softened and straightened) and spread it gently on an oilcloth.

Prepare a superficial microslide of the common smoke tree leaf. Examine at low and high magnification of the microscope, find and study the diagnostic features.

Draw a conclusion about the authenticity of the raw material.

Chemical composition:

Standardisation:

Pharmacological action:

Uses:

Work 3: Morphological and anatomical analysis of the raw material "Castor bean leaves"

Study the producing plant from herbarium specimens and tables. Identify diagnostic features for its recognition in nature.

Describe the external signs of the raw material.

Prepare a surface micro specimen of a castor bean leaf. Examine at low and high magnification of microscope, find the diagnostic features.

Draw a conclusion about the authenticity of the raw material.

Chemical composition:

Standardisation:

Pharmacological action:

Uses:

Work 4. Fill in the table:

Medicinal plant raw material	**Main biologically active substances**
Oak bark	
Castor bean tree leaves	
Common smoke tree leaves	

SELF-CHECK ASSIGNMENTS:

. What types of raw materials serve as sources of tannin?

2. What external signs can be used to judge the quality of oak bark?

3. What micro sign of oak bark indicates the authenticity of the raw material?

4. Name the most typical defects of raw materials of castor bean and common smoke tree.

5. What reactions can prove the presence of hydrolysable tannides in raw materials?