The tissue studied has a large nucleus, a thick cytoplasm without vacuoles; numerous mitochondias and ribosomes; a poor developed endoplasmic reticulum; no crystals. This is … {
=meristem
~endosperm
~periderm
~epidermis
~epiblema
}

Stem thickens due to the function of the … {
=lateral meristem
~apical meristem
~traumatic meristem
~intercalary meristem
~endodermis
}

While microscopical analysis of the axis organ between secondary phloem and secondary xylem we find tissue in the form of the multi-layer ring. Cells are alive, thin-walled, densely closed, flattened and are situated in radial layers. So, this tissue is … {
=cambium
~procambium
~phellogen
~pericycle
~phelloderm
}

Cambium is a … {
=secondary meristem
~covering tissue
~primary meristem
~conductive tissue
~basic tissue
}

When determining the type and characteristics of vascular bundles of axial organs, it is necessary to consider mutual arrangement of the phloem and xylem, the presence of facings and ... {
=cambium
~epiderm
~periderm
~pericycle
~phellogen

}

The main role in the formation of lateral roots belongs to … {
=pericycle
~procambium
~cambium
~apical meristem
~lateral meristerm
}

Lateral roots are formed endogenously and they develop as a result of the activity of the … {
=pericycle
~procambium
~cambium
~apical meristem
~phellogen
}

Microscopic examination of ground tissue of a small branch revealed cork and phelloderm. These are the derivates of: {
=phellogen
~procambium
~cambium
~protoderm
~pericycle
}

Microscopic examination of a stem of a perennial plant revealed integumentary tissue of secondary origin that was formed as a result of activity of … {
=phellogen
~pericycle
~procambium
~cambium
~protoderm
}

While microscopical analysis of the perennial plant stem we find covering tissue of the secondary origin, which is formed by the activity of … {
=phellogen
~procambium
~cambium
~cortex parenchyma
~pericycle
}

Lenticels are discovered in periderm of the perennial plant stem, they are formed by activity of … {
=phellogen
~procambium
~cambium
~cortex parenchyma
~pericycle
}

Covering tissue has root hairs, have no stomas and cuticle. This is … {
=epiblema
~epidermis
~periderm
~velamen
~exoderm
}

Microscopical examination of transverse section of root revealed investing tissue consisting of a thin-walled, closely joining cells with root fibrilla. This tissue is called: {
=epiblem
~root cap (pileorhiza)
~epiderm
~endoderm
~periderm
}

While microscopical analysis we find complex tissue, which consists of alive cells with thickened and cutinized external cell walls, stomas and hairs.
This is … {
=epidermis
~periderm
~cortex
~epiblema
~velamen
}

In the leaf epidermis one can see complexes containing pairwise approximate semilunar cells with chloroplasts. These are … {
=stomas
~hydatodes
~trichomes
~glandules
~lenticels`

}

Microscopy of epidermis of the dicot plant leaf has shown that cells around guard cells do not differ from the base cells. So, this type of stomata is … {
=anomocytic
~diacytic
~paracytic
~tetracytic
~anisocytic
}

Leaves of the plants Mustard *(Brassicaceae)* Family are covered by epidermis, which has stoma apparatus with three subsidiary cells of different size. These types of stoma apparatus is called … {
=anisocytic
~diacytic
~paracytic
~anomocytic
~tetracytic
}

While microscopical study of the epidermis of the Lamiaceae (Mint) Family leaf it is ascertained that both subsidiary cells of the stomas are situated transversely to stoma slit. Stoma apparatus is … {
=diacytic
~anomocytic
~anisocytic
~tetracytic
~paracytic
}

Microscopy of a leaf epidermis of Convallaria majalis showed that the stomata had four accessory cells. Two of them were lateral, and two other were polar. What type of stomatal mechanism is it? {
=tetracytic
~diacytic
~anomocytic
~paracytic
~anisocytic
}

Stomas of leaf epidermis of Vinca minor have two subsidiary cells; their longitudinal axes are parallel to the somatic cleft. So, stoma apparatus is ... {
=paracytic
~diacytic

~anomocytic
~tetracytic
~anisocytic
}

While microscopical study of the triennial stem on the cross section we detected covering tissue, which consists of densely close dead brown cells, with thick cell walls, which impregnate with suberin. This is … {
=cork cells (or phellema)
~epiblema
~epidermis
~collenchyme
~chlorenchyma
}

While microscopical study of the stem we found out a covering tissue which consists of cork, phellogen and phelloderm. This tissue complex forms … {
=periderm
~epidermis
~xylem
~phloem
~collenchyma
}

Phellogen is formed either from pericycle or from the basic tissue which is obtaining the meristem activity. Name the type of tissue which is formed from fellogen. {
=covering tissue
~meristem
~excretory tissue
~strengthening (mechanical) tissue
~conductive tissue
}

When studied stem covered with periderm researcher came to conclusion that gaseous exchange takes place through: {
=lenticels
~hydatodes
~stomata
~pores
~throughput cells
}

While microscopical analysis we find complex tissue, which consists of periderm aggregate.

This is … {
=bark
~epidermis
~epiblema
~exoderm
~velamen
}

While microscopical analysis of the leaves we discovered structures, which consist of long stalk and small secretory multicellular head. They are … {
=glandular hairs
~covering hairs
~stringing hairs
~hydatodes
~thorns
}

Plants of the *Lamiaceae* Family have rounded exogenous secretory structures with a short unicellular stalk and 8–12 radially situated secretory cells. These are … {
=essential oil glandules
~nectarines
~osmophores
~hydatodes (or water stomas)
~glandular hairs
}

By microscopical analysis of the plant (in epidermis) we discover glandules, where cells are situated by two cells in 3 – 6 layers, so the plant belongs to the Family... {
=Asteraceae (Sunflower)
~Scrophulariaceae (Figwort)
~Solanaceae (Potato)
~Apiaceae (Carrot)
~Lamiaceae (Mint)
}

Essential oil glandules that consist of 8 secretory cells placed in 2 lines and 4 tiers are typical for most plants of the following family: {
=Asteraceae (Sunflower)
~Lamiaceae (Mint)
~Solanaceae (Nightshade)
~Scrophulariaceae (Figwort)
~Apiaceae (Carrot)
}

Excretory structures, which excrete water with mineral substances in liquid state, are situated on the serrations of the leaf. Water excretes through the slits between two open guard cells. These are … {
=hydathodes
~osmophores
~emergence
~glandular hair
~glandule
}

Microscopic examination of leaf serration revealed secretory structures secreting some liquid. What are these structures called? {
=hydatodes
~nectaries
~stomata
~glandules
~osmophores
}

Under the microscope on the denticles of the leaf we discover secretory structures that excrete drops of liquid. These structures are … {
=hydatodes
~nectarine
~stomas
~glandules
~osmophores
}

While microscopical study of the leaf on the denticles there are determined water stomas which are the appliance for excretion of liquid drops, i.e. realizing the process of … {
=guttation
~gas exchange
~endogenous secretory
~transpiration
~photosynthesis
}

Microscopical examination of leaf revealed water stomata on its serration. These stomata are for exudation of liquid-drop moisture. This process is called: {
=guttation
~photosynthesis
~transpiration
~internal secretion
~gas exchange

}

In the flower we determine secretory structures, which excrete sugary solutions that attract pollinators. This is … {
=nectaries
~osmophores
~stinging hair
~sticky hair
~hydatodes
}

External secretory structures include … {
=nectaries
~idioblast
~lacticifer
~resinous canals
~conceptacle
}

Nectaries usually contain … {
=solutions of sugars
~essential oils
~food enzymes
~mucus
~latex
}

While microscopical analysis of the *Urtica dioica* leaf we find large growths, which consist of multicellular stay, ampulla-shaped alive cell with small mineralized head. Cell sap contains substances, which cause irritation. This structure is … {
=stinging hair
~covering hair
~peltate scale
~seta
~glandular hair
}

In epidermis of the madder dye leaf there have been identified multicellular spiny outgrowths; epidermal and subepidermal cells take part in their formation. These outgrowths are ... {
=emergences
~simple trichomes (or hairs)
~glandular hair
~glandules

~stinging hairs
}

In the wood of the *Pinus sylvestris* essential oils are accumulated in resin channels, which are covered inside with a layer of secretory cells. Those structures are called … {
=schizogenous conceptacles
~lysigenous conceptacles
~articulate lacticifers
~non-articulate lacticifers
~cells-idioblasts
}

It is known that the leaves of Eucalyptus globulus have cavities with well-defined internal boundaries and filled with essential oils. They are called: {
=schizogenous cavities
~non-articulated lacticifers
~schizolysigenous cavities
~articulated lacticifers
~lysigenous cavities
}

In folded parenchyma of the pine leaf we discover hollow structures that are lined with secretory cells and contain thick gum. These are … {
=schizogenous conceptacles
~nectarines
~osmophores
~hydatodes (or water stomas)
~lacticifers
}

On the cross section of the *Citrus* exocarp we discovered large secretory structures without exact outline. This is … {
=lysigenous conceptacle
~schizogenous conceptacle
~cells-idioblast
~articulate lacticifer
~non-articulate lacticifer
}

It is known that rhizome and roots of elegampane inula *(Inula helenium)* have cavities without distincts inner boundaries filled with essential oils. They are called: {
=lysigenous receptacles
~segmented lacticifers

~schizogenous receptacles
~nonsegmented lecticifers
~resin ducts
}

While microscopical study of the poppy pericarp it is determined, that there are tube structures with white latex. They are … {
=lacticifers
~secretory glands
~lysigenicous conceptacle
~secretory cells
~schizogenous conceptacle
}

On the longitudinal section of the *dandelion* root in cortex we find secretory structures with thick contents in the form of winding tubules, which are formed with series of cells. Such structures are called … {
=articulate lacticifer with anastomosis
~articulate lacticifer without anastomosis
~non-articulate non-branched lacticifer
~non-articulate branched lacticifer
~schizogenous cannals
}

Some plants accumulate latex in … {
=lacticifers
~cells-idioblasts
~glandules
~hydatodes
~conceptacles
}

Cells of the stem pith are parenchymal and alive. They have large intercellular spaces and thin porous walls. This tissue is … {
=basic
~conductive
~meristematic
~mechanical
~covering
}

In a sample studied under a microscope the multilayer palisade (columnar) parenchyma can be clearly seen. Such structure is typical for: {
=leaf
~root

~dicotyledon stem
~rhizomes of ferns
~adventitious roots
}

Under the epidermis of a leaf we find green tissue which consists of alive, oblong and tightly closed cells. These cells are orthogonally oriented to the leaf surface. This is a parenchyma of … {
=columnar (or palisade)
~spongy
~folded
~storage
~auriferous
}

While microscopical study of the leaf we discover that some layers of the chlorophyll-bearing cells are situated under epidermis. These cells have elongated form and are situated obliquely to the surface of a leaf with large amount of chloroplasts. So, this parenchyma is called … {
=palisade
~folded
~storage
~water-bearing
~spongy
}

The cells of leaf mesophyll are elongated, densely close with thin, straight walls and large quantity of chloroplasts, so, chlorenchyma is … {
=palisade
~spongy
~folded
~storage
~aerenchyma
}

While microscopical study of the pine leaf we find that mesophyll consists of cells, which have many chloroplasts and sinuous cell walls. So, mesophyll is formed by … parenchyma. {
=folded (plicate)
~palisade
~storage
~water-bearing
~spongy
}

While microscopical study of the needle-shaped leaf we consider alive tissue with inner ansate growths of cell wall, along which there are situated chloroplasts, so this parenchyma is … {
=folded
~spongy
~palisade
~folded and palisade
~palisade and spongy
}

Basic tissue of green leaf consists of living thin-walled, parenchymatous cells and large intercellular spaces. This parenchyma is ... {
=spongy (or lacunose)
~palisade (or columnar)
~folded
~storage
~venting
}

Basic parenchyma is developed in seeds, pericarp, cortex, stem core and underground organs. It contains starch and aleuronic grains, drops of fatty oil. This parenchyma is … {
=storage
~water-storage (or hydrophoric)
~aerenchyma (or air-containing)
~assimilative palisade (or columnar)
~assimilative spongy (or lacunose)
}

Underground location of rhizomes determines the fact that the most developed tissue is … {
=storage parenchyma
~chlorenchyma
~aerenchyma
~xylem
~collenchyma
}

Basic parenchyma of the hydrophytes and hygrophytes leaves with a developt system of intercellular spaces that promotes ventilation and flotage has been studied. This parenchyma is… {
=aerenchyma (or air-containing)
~water-storage (or hydrophoric)
~assimilative spongy (or lacunose)
~storage

~assimilative folded
}

Air roots of *orchids* are covered with a multi-layer protecting, absorbing and photosynthesizing tissue of protodermal origin. It is .. {
=velamen
~epiblema
~periderm
~cortex
~epiderm
}

A characteristic feature of strengthening tissues of plants is that such tissues consist essentially of dead cells. However there exists one type of strengthening tissues consisting of living cells. What cells of strengthening tissues from the list below contain a living protoplast? {
=collenchyma
~sclereids
~libriform
~perivascular fibers
~bast fibers
}

Anatomical and histochemical analyses of the petiole show that under the epidermis and above the conductive bundle there are alive parenchymal multangular cells with cellulose walls, thickened in cell angles. This is typical for … {
=angular collenchyma
~spongy parenchyma
~lamellar collenchyma
~lacunar collenchyma
~bust fiber
}

Some layers of alive parenchymatous cells are discovered on the cross section. Cells contain chloroplasts; cell walls are thickened on the angles. This is … {
=angular collenchyma
~lamellar collenchyma
~lacunar collenchyma
~storage parenchyma
~aerenchyma
}

Anatomico-histochemical analysis of a petiole revealed living parenchyma cells with cellulose, angular thickened membranes under the epiderm and above the fascicle. This is typical for: {
=angular collenchyma
~lamellar collenchyme
~spongy parenchyma
~lacunar collenchyme
~bast fibers
}

Anatomical and histochemical analyses of petiole shows that under epidermis there are alive parenchymal cells with cellulose and thickened tangential cell walls. This is … {
=lamellar collenchyma
~angular collenchyma
~lacunar collenchyma
~spongy parenchyma
~palisade parenchyma
}

While microscopical studying of the leaf we find stellar sclereids. These are … {
=astrosclereids
~osteosclereids
~trichosclereids
~macrosclereids
~brachisclereids
}

Microscopy of the fruit pulp of quince has found sclereids of isodiametric form. They are … {
=brachysclereids
~astrosclereids
~thread-like sclereids
~osteosclereide
~macrosclereids
}

In the pulp of leaves (*tea, begonia, ivy*) there are sclereids that are dumbbell-shaped or have a form of tubular bones. They are ... {
=osteosclereides
~macrosclereids
~thread-like sclereids
~astrosclereids
~brachysclereids
}

While microscopical analysis of the longitudinal section of the flax *(Linum)* stem on the periphery we find groups tightly closed prosenchymatous cells with pointed ends and strongly thickened lamellar cellulose cell walls, which are penetrated with oblique pores. So, this is … {
=bast fibers
~wood fibers
~cortex fibers
~tracheids
~vessels
}

In composition of the stem phloem there are groups of the densely close prosenchymatous cells with pointed ends, evenly thickened, lamellar, partly lignified cell walls. These are … {
=phloem fibers
~xylem fibers
~tracheids
~sclereids
~collenchymas
}

Sclerenchyma consists of thickened cell walls, which are impregnated with lignin. These fibers are … {
=wood
~bast
~cortex
~perivascular
~sheath
}

Having been studied, conifer wood is determined to be composed of cells with pointed ends and lignified ring-porous cell wall. Therefore, this tissue of conifers is represented only by: {
=tracheids
~vessels
~sieve tubes
~companion cells
~bast fibers
}

Ascending transport of water and soluted minerals is provided by … {
=vessels and tracheids
~sieve tubes
~wood fibers (libriform)

~bast fibers
~sclerenchyma
}

By means of microscopic analyses it has been observed prosenchymatous cells with bordered pits,which are typical for … tissue {
=conductive
~mechanical
~storage
~covering
~meristematic
}

It is determined that transport of photosynthesis products is provided by the … {
=sieve tubers
~vessels
~tracheids
~parenchyma
~bast fiber
}

Descending stream of organic substances from leaves to all plant organs is provided by … {
=sieve tubers
~vessels
~tracheids
~bast fibers
~wood fibers
}

While microscopical analysis of the stem we find complex tissues, which include such histological elements as: sieve tubes with companion cells, bast fibers, bast parenchyma. It's typical for … {
=phloem
~xylem
~epidermis
~cortex
~periderm
}

The main conductive components of leaf vein tissues are ... {
=xylem and phloem
~collenchyma and sclerenchyma
~epidermis and periderm
~aerenchyma and chlorenchyma

~phloem and collenchyma
}

On the photomicrograph of a herbaceous plant stem the bicollateral vascular bundles are clearly visible. The microspecimen represents the stem of the following plant: {
=pumpkin
~rye
~flax
~corn
~solomon's seal
}

On the cross section of the pumpkin (*Cucurbita*) stem it can be well seen that open conductive have two parts of phloem: inner and outer. These bundles are {
=bicollateral
~collateral
~radial
~concentric with the phloem in the center
~concentric with the xylem in the center
}

Conductive bundles with the phloem in the centre and xylem around it are typical for rhizomes of the lily-of-the-valley *(Convalaria majalis)*. There are … {
=concentric centerphloem bundles
~concentric centerxylem bundles
~radial bundles
~bicollateral bundles
~collateral bundles
}

While microscopic analysis of the rhizome we found centroxylem conductive bundles, so the rhizome belongs to … {
=Dryopteris filix-mas
~Potentilla erecta
~Convallaria majalis
~Agropiron repens
~Acorus calamus
}

While microscopic analysis of the rhizome we found centroxylem conductive bundles, so the plant belongs to … {
=fern
~algae
~dicot

~monocot
~gymnospermae
}

Conductive bundle is discovered on the cross section of the axis organ; its phloem and xylem are situated separately, which take turns radially. So, this type of the bundle is … {
=radial
~centroxylem
~centrophloem
~collateral
~bicollateral
}

What type of conductive bundle is typical for primary anatomic structure of the root? {
=radial
~concentric
~collateral closed
~bicollateral
~collateral open
}