

TISSUES

SCIENTIA
TUTORIALSSCIENTIA
TUTORIALS

SUMMARY

- 1) A group of cells, that are similar in structure and work together to achieve a particular function, forms a **tissue**.
- 2) **Types of plant tissues** include meristematic and permanent tissues.
- 3) **Meristematic tissues** are rapidly dividing tissues.
- 4) **Apical meristem** is present at the apical or growing tips of stems and roots.
- 5) **Lateral meristem** is present in the radial portion of the stem or root.
- 6) **Intercalary meristem** occurs at the base of the leaves or at the internodes. Old meristematic cells lose the capacity to divide and transform into **permanent tissues**.
- 7) **Types of permanent tissues** include **parenchyma**, **collenchyma** and **sclerenchyma**.
- 8) Parenchyma containing chloroplasts are called **chlorenchyma**. Parenchyma containing large air cavities are called **aerenchyma**.
- 9) **Complex permanent tissues** are made of more than one type of cells and are of 2 types- **xylem** and **phloem**.
- 10) **Tracheids** are tubular dead cells that transport water. **Vessels** are elongated dead cells that transport water and minerals.
- 11) **Xylem parenchyma** cells are living and they store food.
- 12) **Xylem fibres** are elongated dead cells with lignin that provide mechanical support.
- 13) **Sieve tubes** are elongated living cells that transport food from leaves to the stem and the roots.
- 14) **Companion cells** help in conduction of food to sieve tubes.
- 15) **Phloem parenchyma** store food.
- 16) **Phloem fibre** provide mechanical support.
- 17) **Protective tissue** protects the plants from the surroundings.
- 18) **Epidermis** is the outermost protective layer of roots, stems and leaves. Outermost layer in older roots and stems is called **cork** that contain dead cells. Epidermis is covered with a water proof layer called **cuticle**.

TISSUES

- 19) **Types of Animal Tissues** include **epithelial tissue, connective tissue, muscular tissue** and **nervous tissue**.
- 20) **Epithelial tissues** form a protective layer.
- 21) Different **types of epithelial tissues** are classified based on their shape and function.
- 22) **Squamous epithelium** are found in the organs to provide mechanical support.
- 23) **Columnar epithelium** are found in the lining of the organs to facilitate the movement of nutrients.
- 24) **Glandular epithelium** are found in the glands to produce secretions.
- 25) **Ciliated epithelium** are found in the lining of the respiratory tract.
- 26) **Cuboidal epithelium** are found in organs to provide mechanical support.
- 27) **Stratified epithelium** are found in places of wear and tear.
- 28) **Connective tissue** connects different organs. Different types of **connective tissues** are classified based on their shape and functions. Blood is a type of **fluid connective tissue**.
- 29) **Bone** is a hard porous tissue that protects the internal organs.
- 30) **Fibrous connective tissue** pack and bind various organs.
- 31) **Ligaments** connect two bones and **tendons** connect bones to the muscles.
- 32) **Cartilage** is found at the end of long bones to give flexibility.
- 33) **Areolar connective tissue** fills the space inside organs.
- 34) **Adipose tissue** is found below the skin and around kidneys.
- 35) Man can move because of the elasticity and flexibility of **muscular tissues**.
- 36) **Striated muscles** help us move our limbs at will.
- 37) **Unstriated muscles** are found in the iris of the eye and bronchi of the lungs.
- 38) The contraction and relaxation of **cardiac muscles** cause heart beats.
- 39) **Nervous tissue** transfer information from one part of the body to another. Nervous tissues have elongated cells called **neurons**. Neurons join end to end to form **nerve fibres**.

