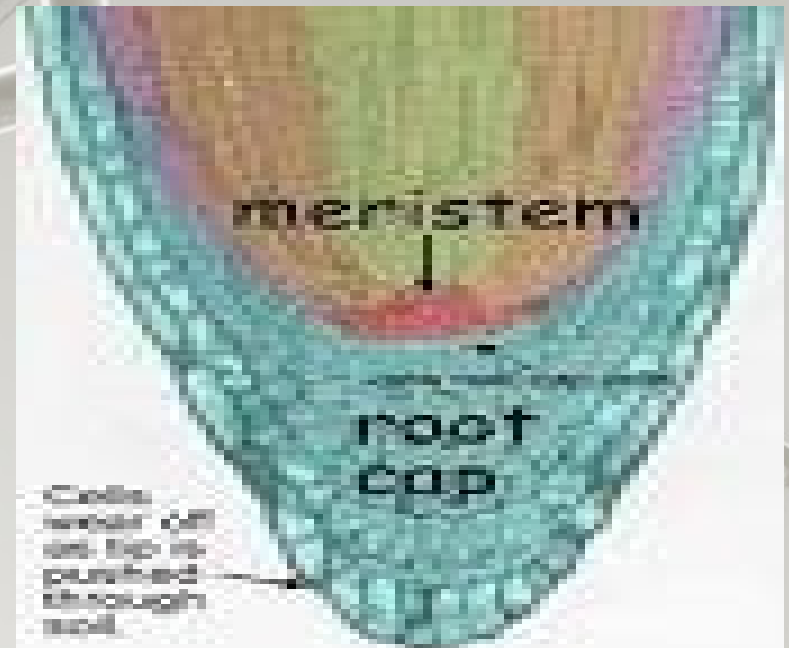
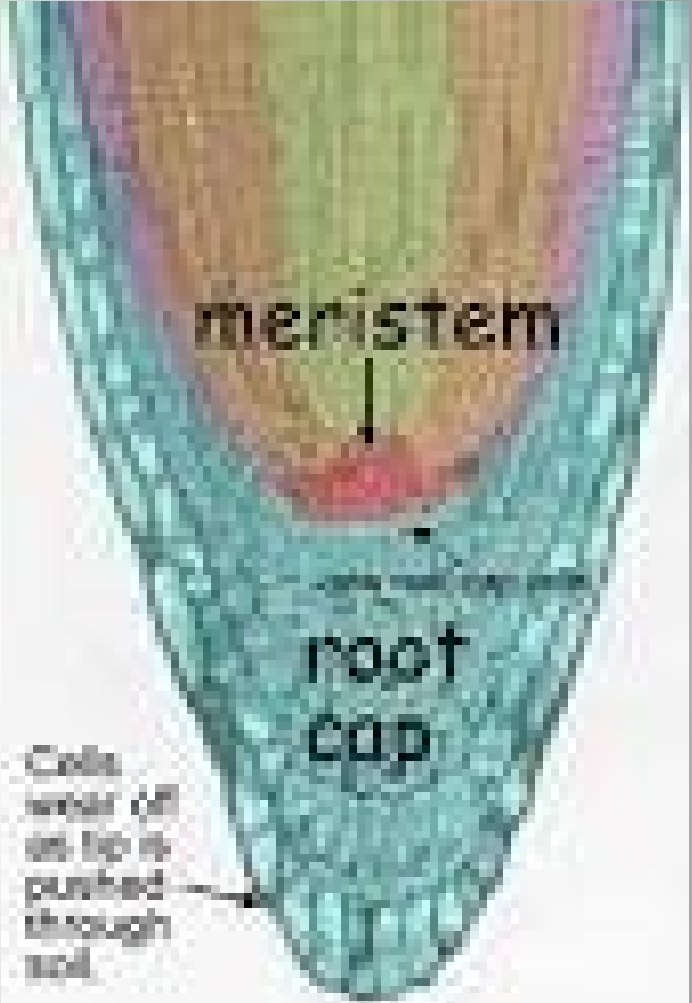
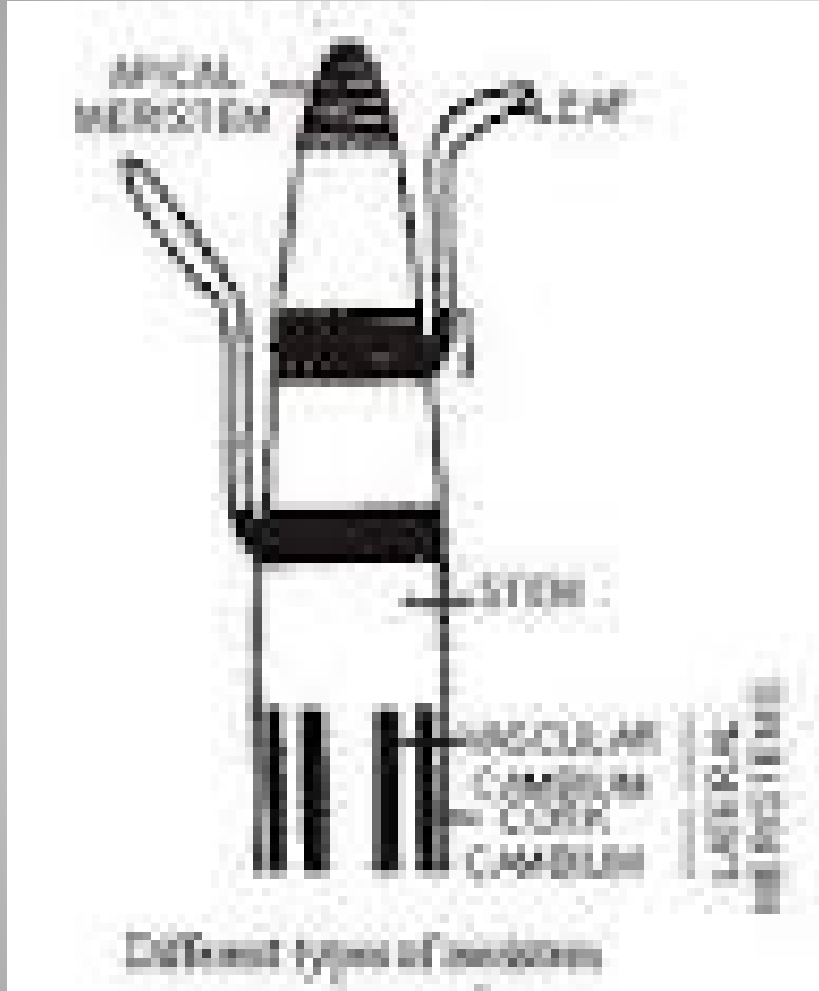


PLANT HISTOLOGY AND ANATOMY

- **Histology study of tissues.**
- **Types of tissues:**
 - **Meristematic tissues: Types based**
 - **position-**
 - **Origin-**
 - **Function-**





Permanent tissues

- **Simple permanent tissues:-**
 - **Parenchyma:- Aerenchyma, Chlorenchyma, prosenchyma**
 - **Collenchyma:- Angular, Lamellar & Lacunar**
 - **Sclerenchyma:-**
 - **Fibres**
 - **sclerids--**

Complex permanent tissues

• Xylem:-

- Tracheids**
- Tracheae**
- Xylem fibres**
- Xylem parenchyma**

• Phloem:-

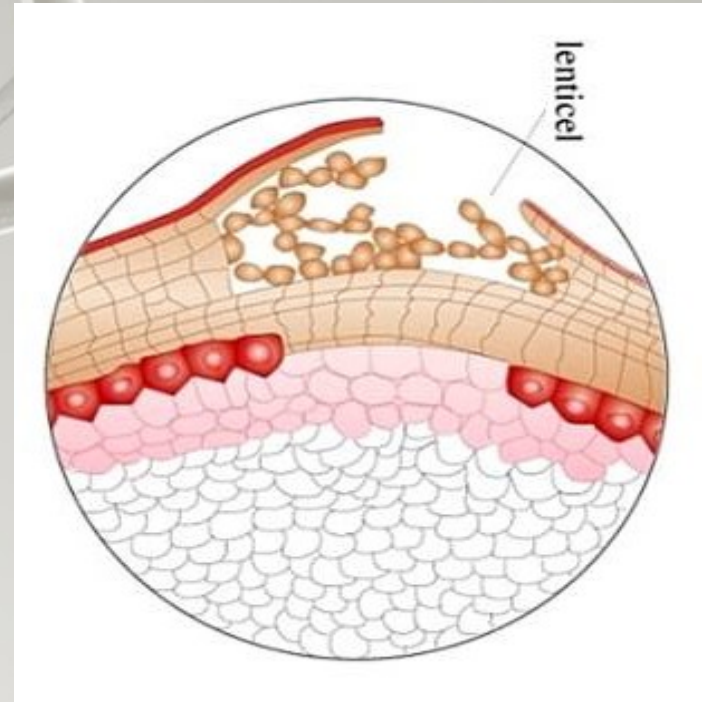
- Sieve elements**
- Companion cell**
- Phloem parenchyma**
- Phloem fibres**

Vascular bundles

- Radial
- Conjoint:-
 - Collateral
 - Bicollateral
 - Concentric:-
 - Hadrocentric
 - Leptocentric

secondary growth in dicot stem

- **Stelar secondary growth**
- **Cortical secondary growth**





Q. Identify the heterogenous permanent tissue from the following

- 1. Xylem**
- 2. Parenchyma**
- 3. Collenchyma**
- 4. Cambium**

Q. Length of bamboo stem internodes increases due to the activity of

- 1. Apical meristem**
- 2. Intercalary meristem**
- 3. Lateral meristem**
- 4. Intra fascicular cambium**



Q. The following tissue component is used in the manufacture of rope.

- 1. Sclereids**
- 2. Fibres**
- 3. Sieve tubes**
- 4. Tracheae**



Q. The following are the sister cells of phloem

- 1. Phloem parenchyma & sieve tube**
- 2. Sieve tube & phloem fibre**
- 3. Companion cell & Phloem fibre**
- 4. Companion cell & Sieve tube**

Q. In vascular plants, tissue differentiation occurs in the following manner

- 1. Procambium – phloem – xylem**
- 2. Xylem -- Procambium – phloem**
- 3. Procambium – xylem – phloem**
- 4. Phloem -- Procambium – xylem**

Q. The trees of sea shore do not possess markable spring & autumn wood because there is

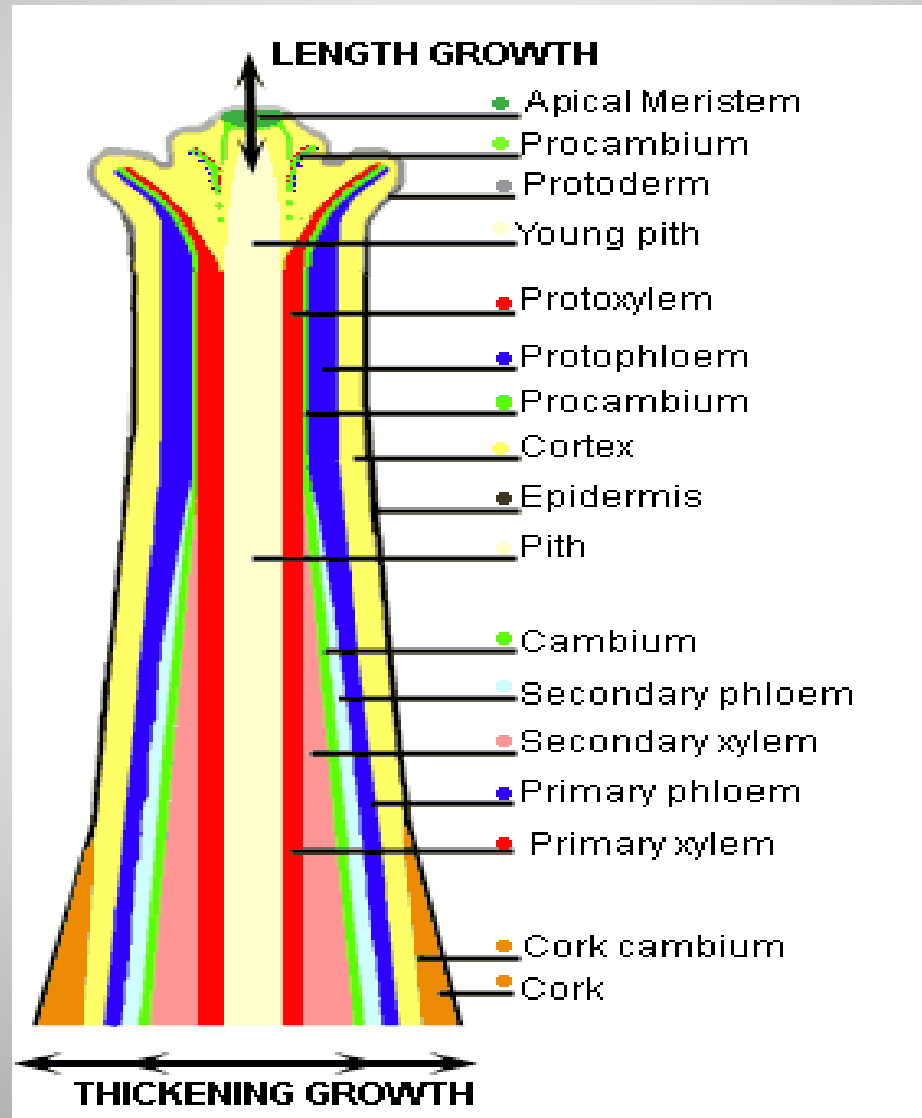
- 1. Enough moisture**
- 2. Sandy soil**
- 3. High humidity**
- 4. Very little climatic variation**



Q. 100 years old tree with well marked annual rings in its trunk shows

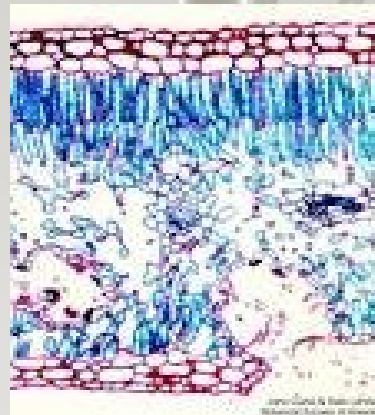
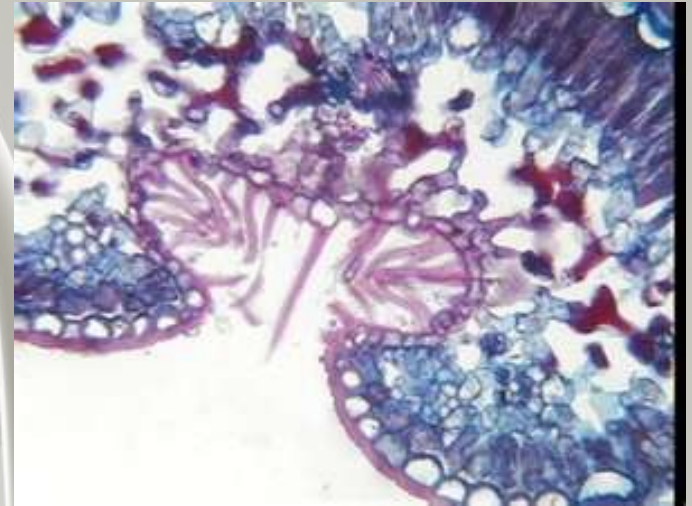
- 1. Same number of rings from base to its apex**
- 2. 50 rings at its base & 25 rings near the tip**
- 3. 100 rings at its base & 25 rings near the tip**
- 4. 100 rings at base & uniform decreasing no. of rings towards its tip**

Secondary growth in dicot stem



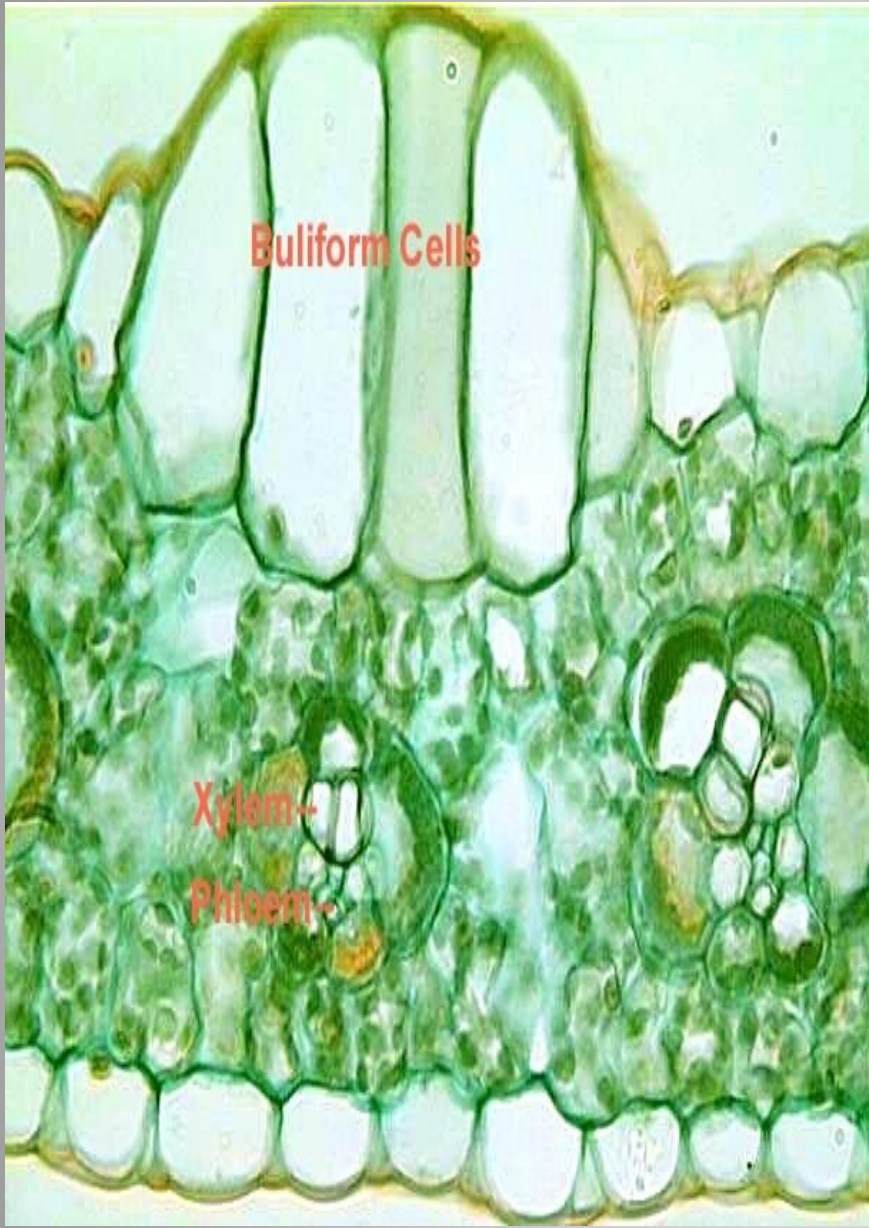
**Q.Thick cuticle ,multilayered epidermis,
sunken stomata are features of**

- 1. Xerophytes**
- 2. Hydrophytes**
- 3. Epiphytes**
- 4. Halophytes**



Q. Maize leaves exhibit inrolling of leaves during dry seasons due to

- 1. Presence of bulliform cells**
- 2. Presence of stomata on upper epidermis**
- 3. Presence of cuticle**
- 4. They are monocot plant**



Q. Tyloses are

- 1. Extensions of xylem parenchyma into tracheae**
- 2. Depositions of sieve plates**
- 3. Extensions of companion cells into sieve tubes**
- 4. Extensions of companion cell into tracheae**

Tyloses

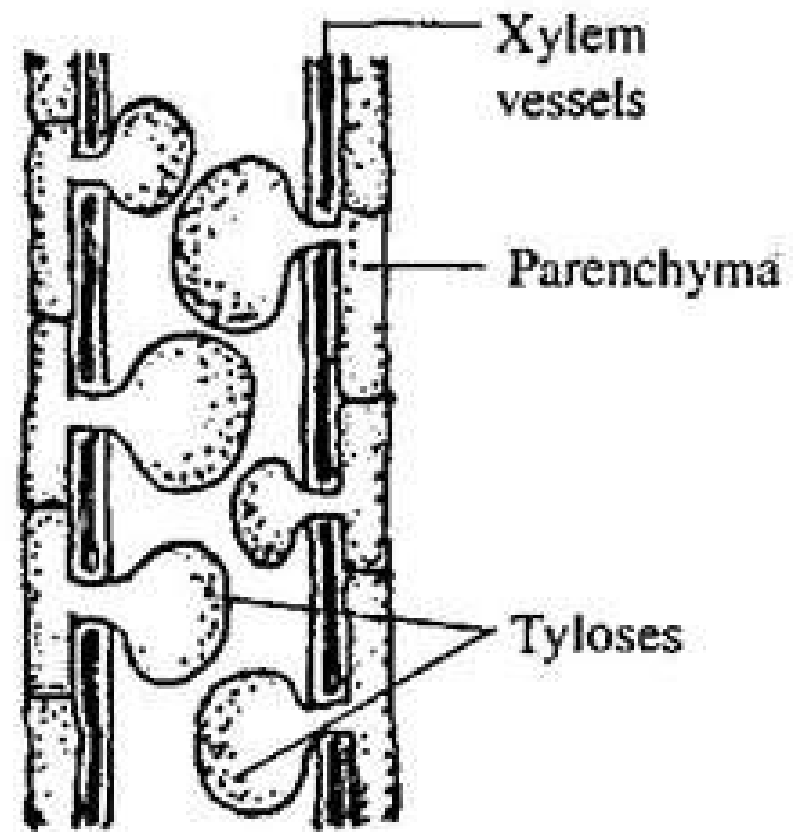
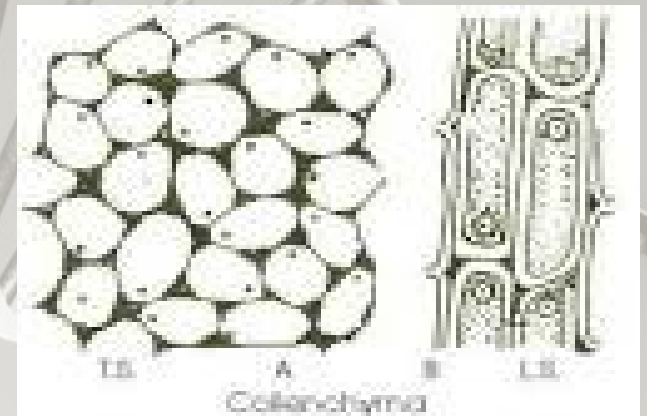


Fig. 3.3.2.5 : Tyloses in xylem vessel

Q. The collenchyma cells with more thickened secondary walls at the corners

- 1. Lamellar collenchyma**
- 2. Lacunar collenchyma**
- 3. Angular collenchyma**
- 4. Complex collenchyma**





Q. Differentiation of secondary meristem tissue is called

- 1. Differentiation**
- 2. De differentiation**
- 3. Re differentiation**
- 4. Cell division**

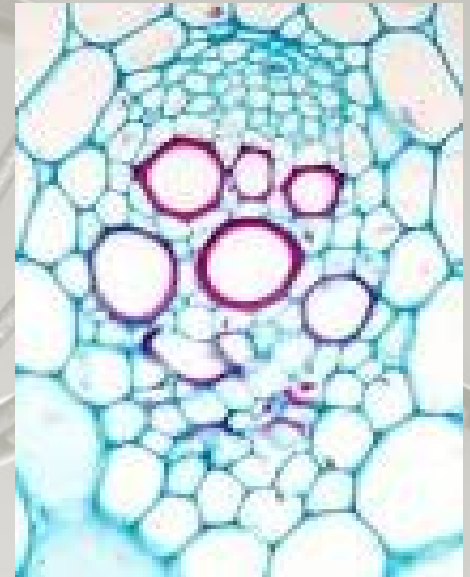
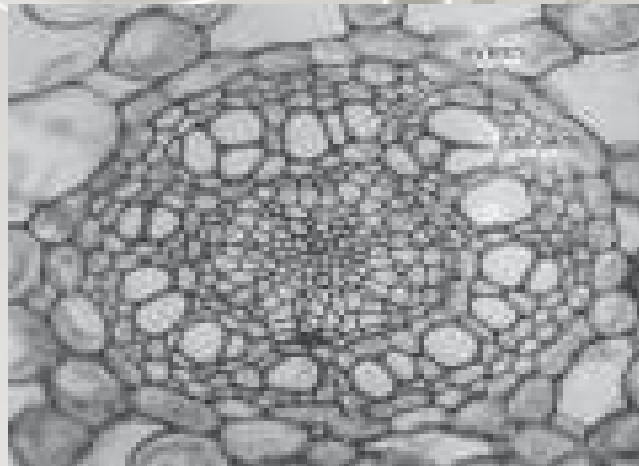
Q. Commercially important cotton fibers are

- 1. Woody fibres**
- 2. Bast fibres**
- 3. Epidermal hair of seed**
- 4. Sclerenchyma fibres**



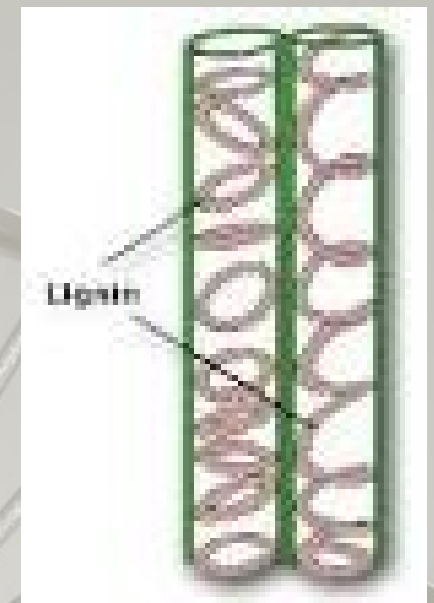
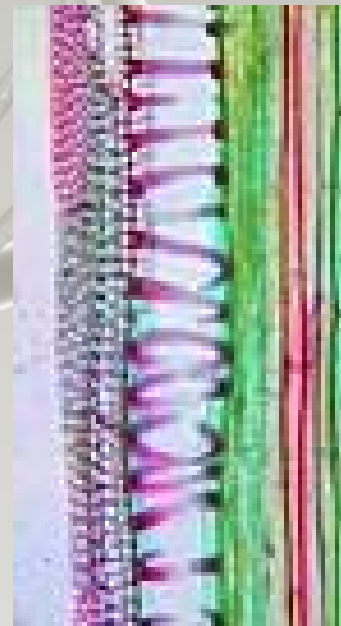
Q. Central phloem is surrounded by xylem concentrically in

- 1. Amphivasal vascular bundle**
- 2. Amphicribal vascular bundle**
- 3. Hadrocentric vascular bundle**
- 4. Radial vascular bundle**



Q. Which of the following is the dead complex mechanical tissue element

- 1. Parenchyma**
- 2. Sclerenchyma**
- 3. Vessels**
- 4. collenchyma**



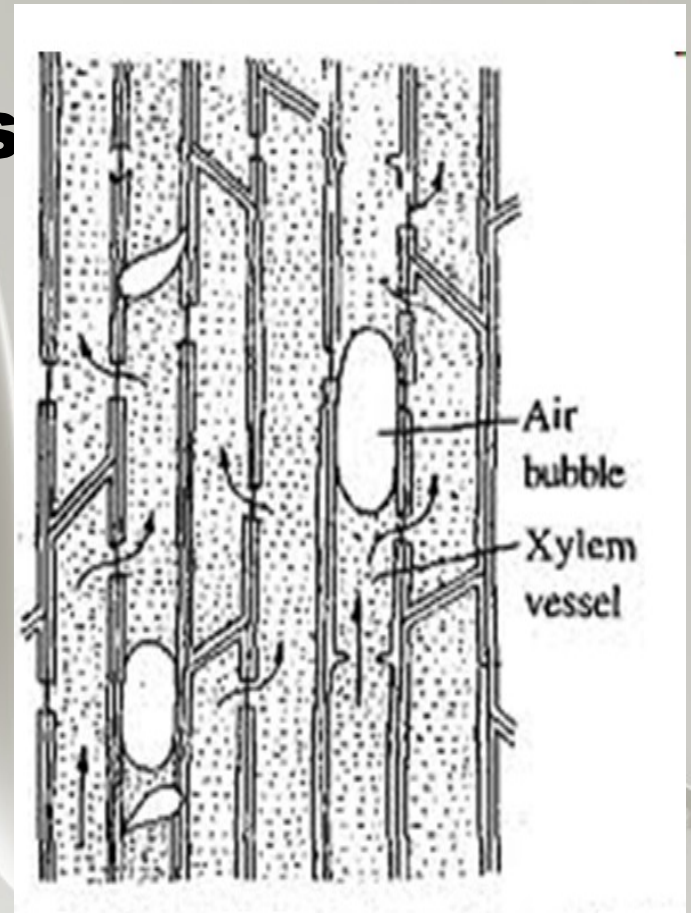


Q. Who is the father of plant anatomy

- 1. N. Grew**
- 2. Schleiden**
- 3. Mettenius**
- 4. Nageli**

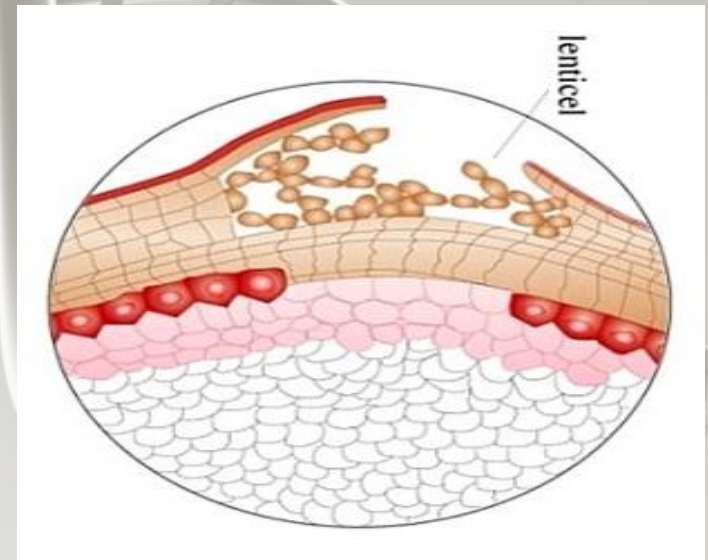
q. Two adjacent vessels exchange of sap through

1. Perforated end walls
2. Pits
3. Intercellular spaces
4. Xylem parenchyma



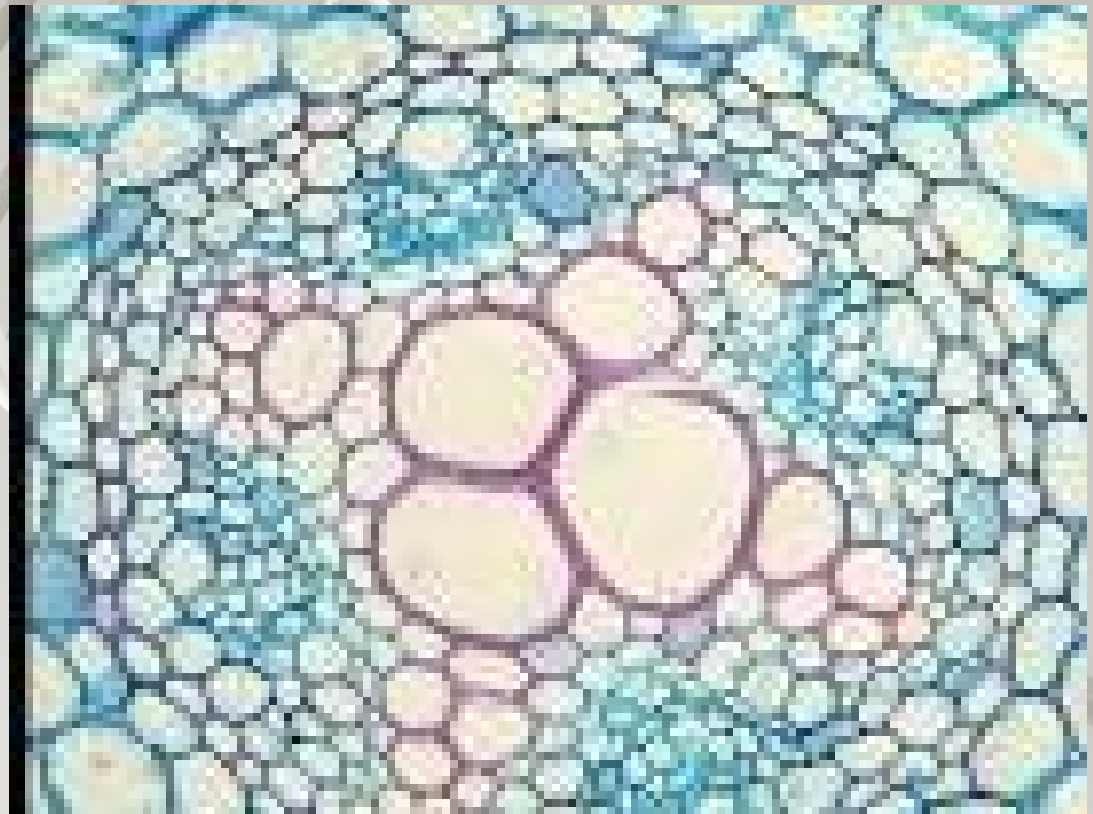
Q. Lenticels are

- 1. Scars on old stem**
- 2. Cuticular stomata**
- 3. Aerating pores in old stem**
- 4. Stomata on hydrophytic plant**



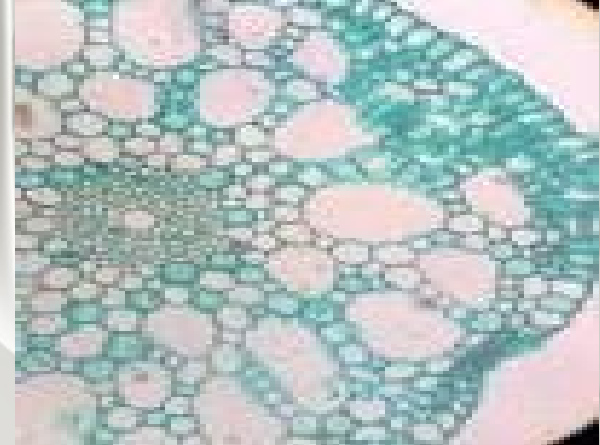
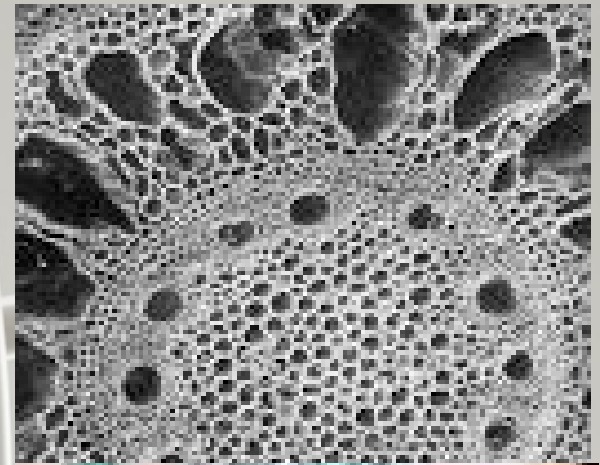
Q. Exarch xylem present in

- 1. Leaf**
- 2. Petiole**
- 3. Stem**
- 4. Roots**



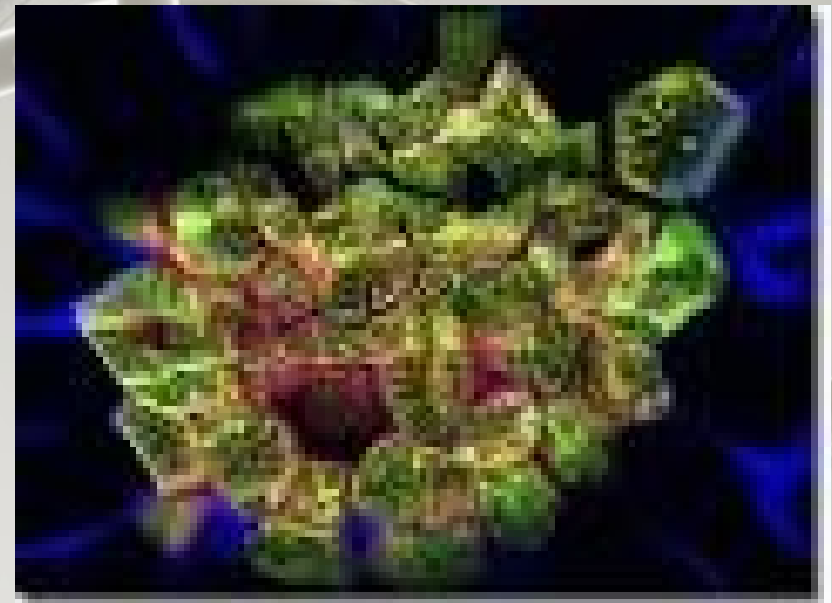
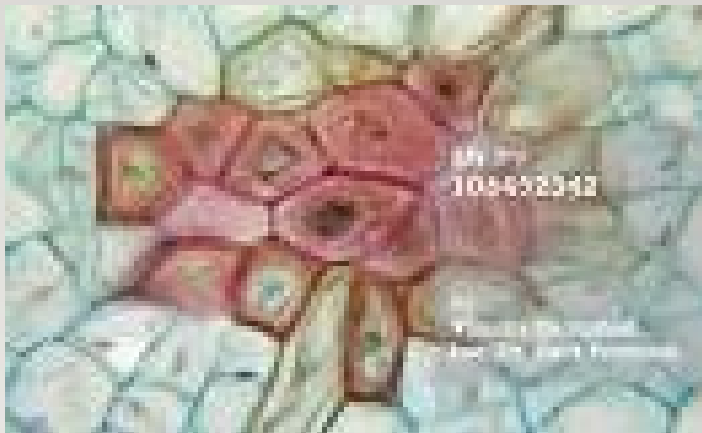
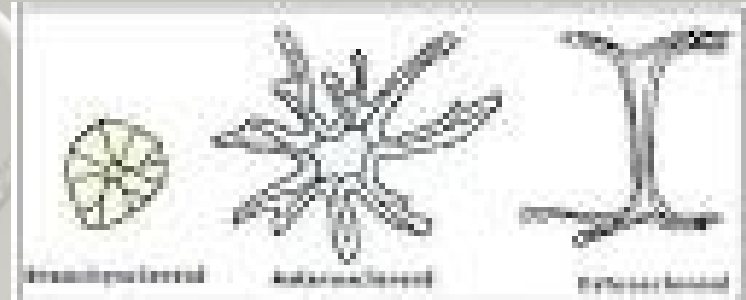
Q. Parenchyma cells with large air chambers is called

- 1. Collenchyma**
- 2. Aerenchyma**
- 3. Chlorenchyma**
- 3. Prosenchyma**



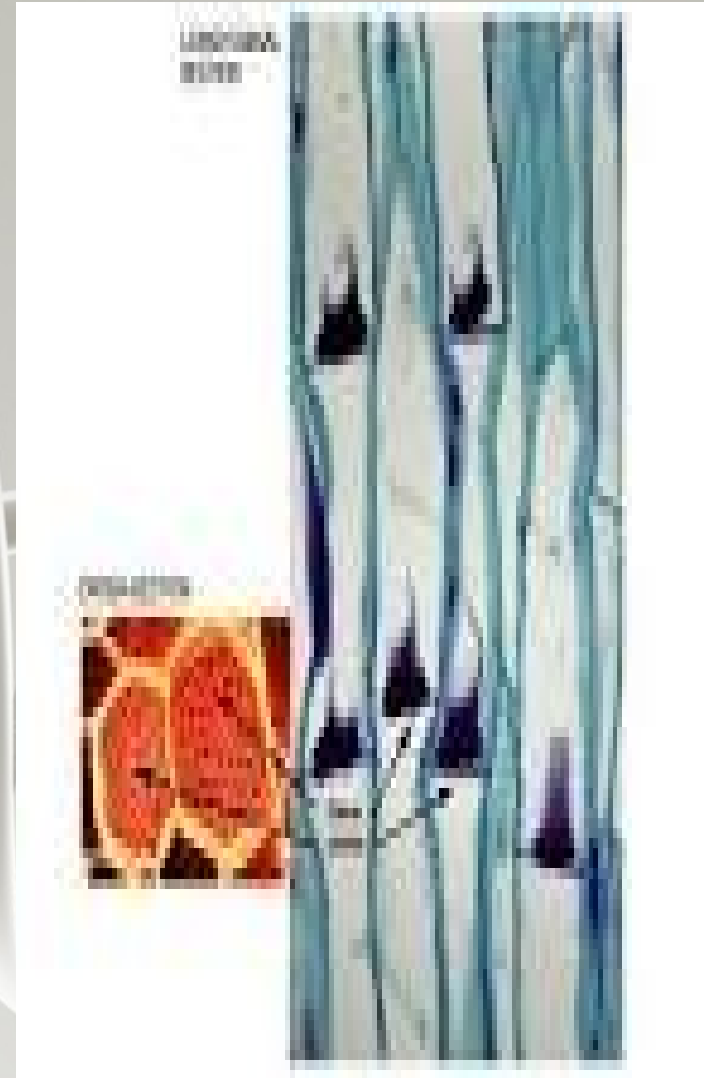
Q. Short, varied in shape, highly lignified & reduced lumen belongs to

- 1. Fibres**
- 2. Sclereids**
- 3. Tracheids**
- 4. Tracheae**



Q. Name the enucleated living plant cell

- 1. Sieve tube**
- 2. Companion cell**
- 3. Phloem parenchyma**
- 4. Phloem fibres**



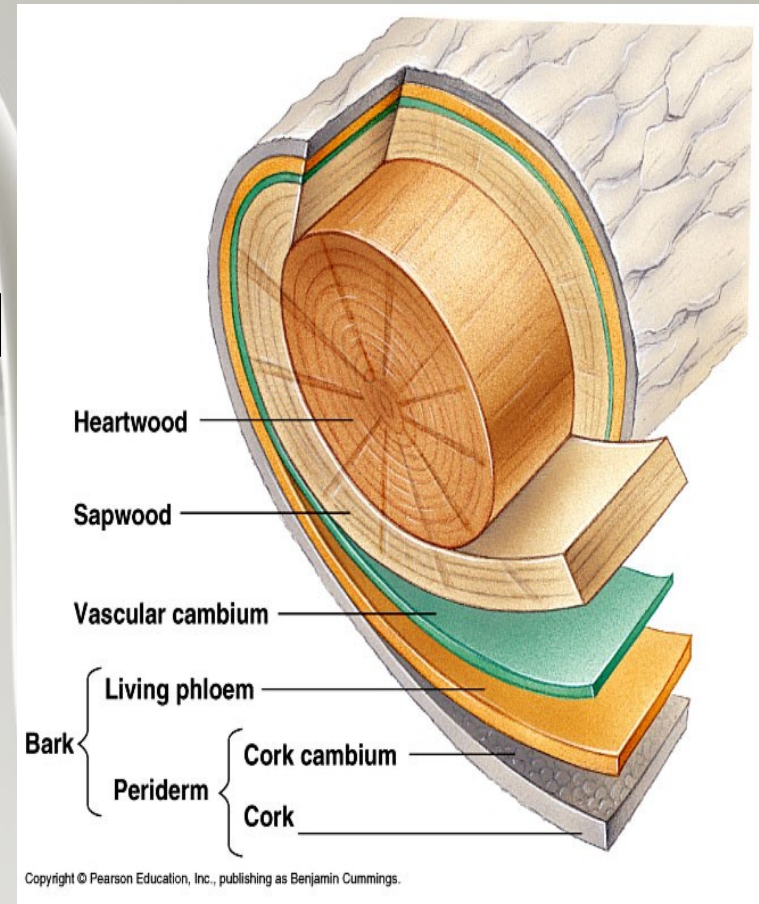
Q. Generally hypodermis is made up of

- 1. Parenchyma & collenchyma**
- 2. Collenchyma & sclerenchyma**
- 3. Parenchyma & sclerenchyma**
- 4. Sclerenchyma**



Q. The position of secondary wood in old dicot stem is

- 1. Central sapwood**
- 2. Outer heartwood**
- 3. Central heart wood**
- 4. Central bark**





Q. Cork cambium is an example for

- 1. Intercalary meristem**
- 2. Lateral meristem**
- 3. Apical meristem**
- 4. Permanent tissue**



Q. Xylary elements having vessels with wider cavities are formed from vascular cambium called

- 1. Autumn wood**
- 2. Spring wood**
- 3. Sap wood**
- 4. Bark**

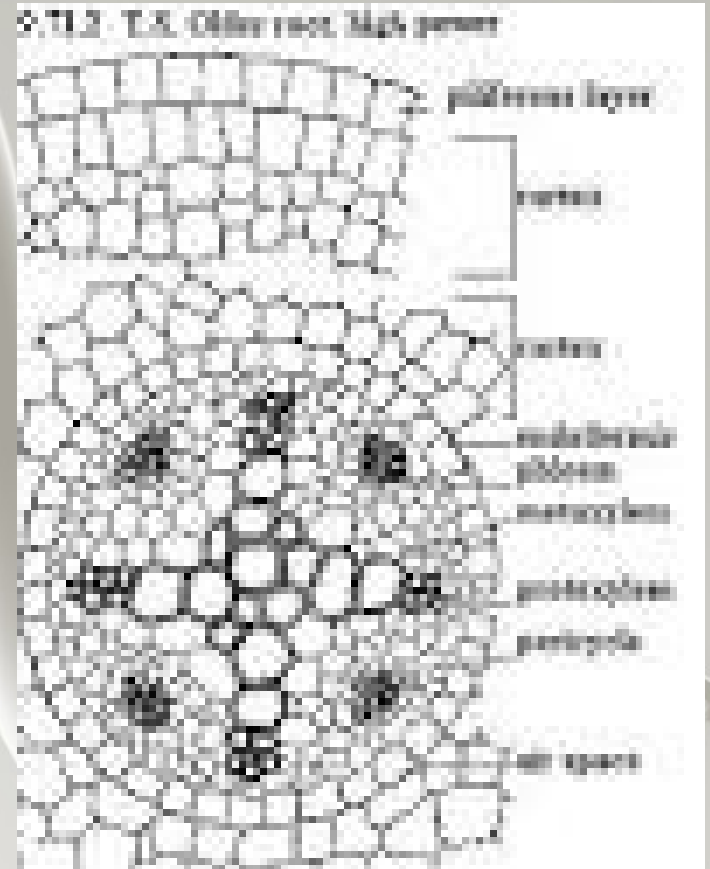


Q. Which of the following is not a epidermal system

- 1. Stomata**
- 2. Trichome**
- 3. Guard cells**
- 4. Sclerenchyma**

Q. Parenchyma cells present between xylem & phloem called

- 1. Pith**
- 2. Conjunctive tissue**
- 3. Medulary rays**
- 4. Hypodermis**



Q. Which is immediate product of cell division by a meristem

- 1. Parenchyma**
- 2. Collenchyma**
- 3. Sclerenchyma**
- 4. Xylem**





Q. The cell wall of parenchyma & collenchyma made up of

- 1. Suberin & lignin**
- 2. Cellulose & pectin**
- 3. Pectin & lignin**
- 4. Cutin & lignin**



Q.A Turgid parenchyma can function as one of the following

- 1. Photosynthetic**
- 2. Supporting**
- 3. Buoyancy**
- 4. Secretory**



Q. Collenchyma cells differ from parenchyma in respect of

- 1. Position in the plant body**
- 2. Absence of nuclei**
- 3. Shape**
- 4. Thickening**

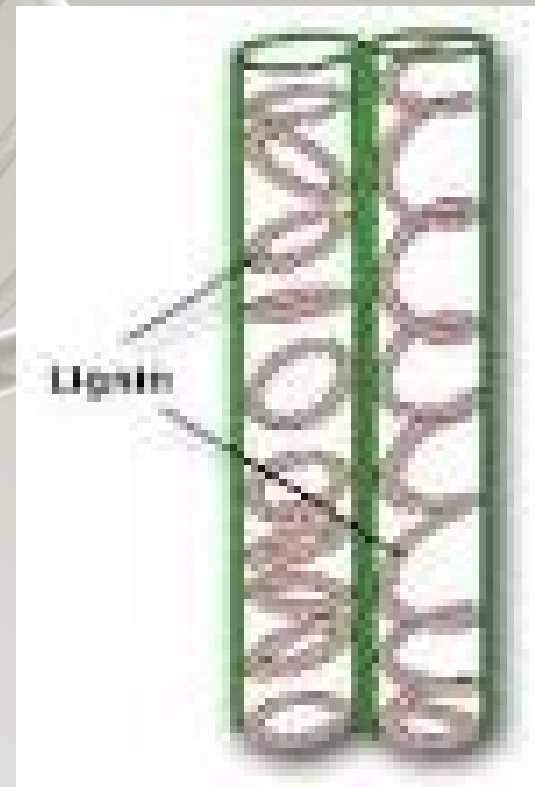
Tracheids are generally present in

- 1. Monocot**
- 2. Dicot**
- 3. Bryophytes**
- 4. Gymnosperms**



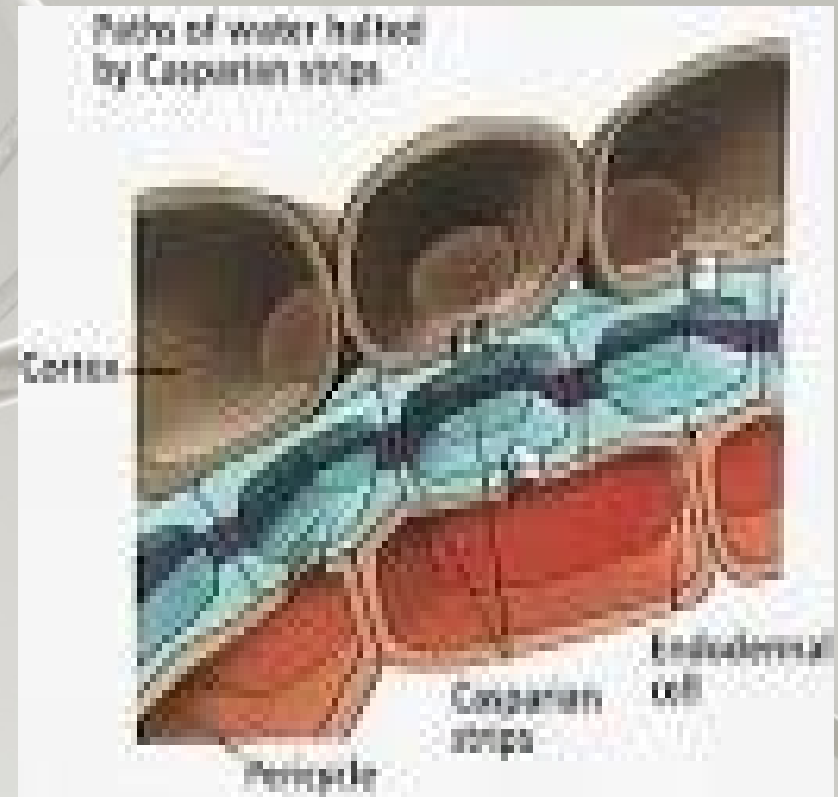
Elongated lignified cells with out tapering ends are

- 1. Vessels**
- 2. Tracheids**
- 3. Collenchyma**
- 4. Sclereids**



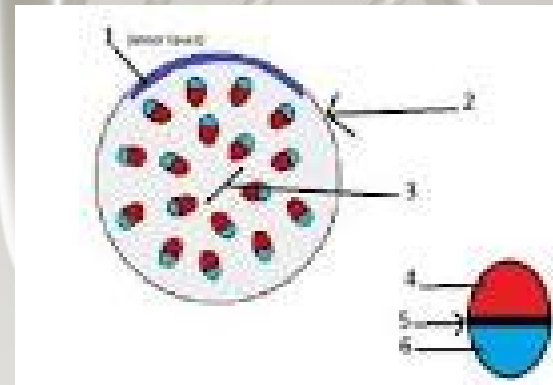
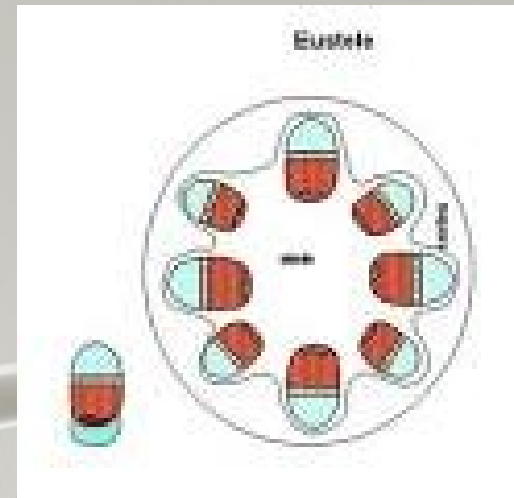
Q. Casparian thickening occurs in

- 1. Epidermis**
- 2. Endodermis**
- 3. Ground tissue**
- 4. Pericycle**



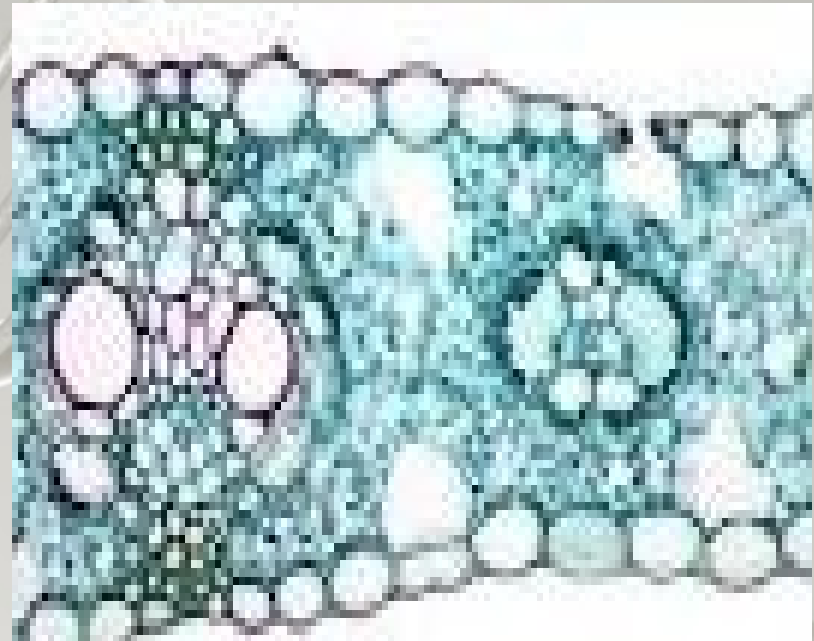
Q.Eustele is characteristic of

- 1. Monocot stem**
- 2. Monocot leaf**
- 3. Dicot root**
- 4. Dicot stem**



Q. Sclerenchyma bundle sheath extension occurs in

- 1. Monocot root**
- 2. Monocot leaf**
- 3. Dicot root**
- 4. Dicot leaf**





Q. Phelloderm & Phellem formed from

- 1. Vascular cambium**
- 2. Phellogen**
- 3. Intrafascicular cambium**
- 4. Interfascicular cambium**

Q. In an unfavourable season like winter, the sieve pore often closed by the deposition of

- 1. Cellulose**
- 2. Pectin**
- 3. Callose**
- 4. Lignin**



Q. Piliferous layer present in

- 1. Root**
- 2. Stem**
- 3. Leaf**
- 4. Flower**



Q.The medullary ray cells present between

- 1. Cortex and stele**
- 2. Epidermis and Cortex**
- 3. Two vascular bundles**
- 4.Vascular bundle & pith**



Q.Lateral roots develop from

- 1. Endodermis**
- 2. Epidermis**
- 3. Cambium**
- 4. Pericycle**