

B.Sc (Hons.) Botany, Semester III, Anatomy of Angiosperms

Week 3

Video and Web links to few e-resources in addition to the books and content discussed during online class.

Topic: Cell Junctions, Cell Wall, Plasmodesmata and Pits

<https://www.youtube.com/watch?v=dXsXSIjR1G0>

www.youtube.com/watch?v=j9FWj4dOVbQ

<https://www.youtube.com/watch?v=V-Y-FOexHXE>

<https://www.youtube.com/watch?v=B1bMnwnGAvk>

Pits

<https://www.easybiologyclass.com/pits-ultra-structure-classification-functions-simple-bordered-pits-similarities-differences/>

https://www.brainkart.com/article/Plasmodesmata,-pits-and-Functions-of-cell-wall_888/

<https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcQhsFeCBtoRL9FDhDK0pgLAm9P3dz0V3EBQVw&usqp=CAU>

<https://www.slideshare.net/AkankshaRai13/pits-amp-plasmodesmata>

<https://www.toppr.com/content/video/plasmodesmata-and-pits-english-54477/>

Topic: Complex Tissues

Refer Book

Esau's Plant Anatomy: Meristems, Cells, and Tissues of the Plant Body: Their Structure, Function, and Development, Third Edition by Ray F. Evert

Print ISBN:9780471738435 |Online ISBN:9780470047385 |DOI:10.1002/0470047380

Complex Tissue

Chapter 10 & 13

- Diagrams for file Page 257, figure 10.2
- Page 269, figure 10.14
- Page 272, figure 10.15
- Page 273, figure 10.16
- Page 275, figure 10.18
- Page 360, figure 13.3

The sequence to be followed

Components of xylems

- Tracheid, Vessels, xylem parenchyma, Fibers

Comparison of structure

- Fiber, Fiber tracheid, tracheid

Different types of tracheids

- Individual thickenings magnified in tracheids

Vessels with different thickenings and perforation plate

- scalariform, simple, compound, reticulate, foraminate perforation

Cell types of secondary phloem

Links to the diagrams for reference:

Reading on complex tissue and its components

<https://myflyingboxandme.blogspot.com/2019/12/xylem-complex-tissue-diagram.html>

Vessel and tracheid

https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcTpRo_Eyvq_ovMN0t1HM1JPLNGNGw6uFs_vBg&usqp=CAU

Single Tracheid

https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcRsoSCWvGV4tOhLMhNZTRj7soPzQ_FTGW_TdA&usqp=CAU

Fibers, Fiber Tracheid, Vessels compared

<https://apps.jefpat.maryland.gov/woodandcharcoalid/Images/LargeImages/Misc-wood/vesselMembers.jpg>

Thickening of secondary wall in tracheids and vessels

<https://qph.fs.quoracdn.net/main-qimg-b3dd32831da077e0c0fb2b5ab620bc93>

Types of thickenings in tracheids

<https://www.brainkart.com/media/article/article71NfPaajradorrefer11.jpg>

Multiple and simple perforation plate

https://www.biologydiscussion.com/wp-content/uploads/2014/09/clip_image004_thumb3.jpg

Pitted vessels with foraminate, scalariform, reticulate perforation plate

<https://www.researchgate.net/publication/273167566/figure/fig1/AS:294962173366286@1447335870842/The-morphology-of-vessel-members-the-types-of-perforation-plates-simple-a.png>

Xylem elements (Tracheid, vessel, parenchyma-Comparison in structure)

<https://www.shaalaa.com/images/4:0d58a31907854ce7b22f536a28bf5f09.png>

<https://www.pmfias.com/wp-content/uploads/2016/03/Xylem-Phloem-Complex-Permanent-Tissue.jpg>

<https://encrypted-tbn0.gstatic.com/images?q=tbn%3AANd9GcQT8KGPZaDtpSveMoDPsbcD1H2nNcbZ9VAMpQ&usqp=CAU>

Xylem and Phloem Compared

<http://www.brainkart.com/media/article/article-Types-of-Complex-per-vmp.jpg>

Sectional view of Phloem

<https://i2.wp.com/thepharmacognosy.com/wp-content/uploads/2019/01/thepharmacognosy.8.png?fit=570%2C430&ssl=1>

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