

Plant Anatomy Study List -- Exam I

Basic nature of plants (Chap 1, pp 5-37)
Indeterminate growth form
General cell structure (Chap 3 pp 79-115)
Protoplasm, cytoplasm
Apoplasm, symplasm
Membranes
Lipid bilayer, proteins
Nucleus
Vacuoles
Plastids
Endoplasmic reticulum
Golgi apparatus
Cytoskeleton
Cell Walls (Chap 5 pp 156-173)
structure, composition
Cell types (Chap 6 pp 181-193, 195-208):
Parenchyma
wall characteristics
Classification
structural
synthetic
boundary
transport
storage
Collenchyma
structural classification
function
elastic vs plastic
Sclerenchyma
wall characteristics & structure
pits
sclerids
fibers
Xylem tissue (Chap 7 pp 217-238)
Gen'l functions
Water transport process
Cell types
conducting
non-conducting
vessels vs tracheids
Secondary wall structure
Evolution of tracheary elements
Phloem tissue (Chap 8, pp 247-269)
Cell types
Sieve elements
basic structure
sieve cells
sieve tube members
Companion cells
Development
evolution
cell maturation

Epidermis (Chap 9 pp 279-308)
Gen'l functions
Cell types
cuticle
guard cells
Surface projections
Meristems (Chap 4 pp 134-146)
Gen'l concepts
Types of meristems
Quiescent zone
Pattern formation (regions of meristems)
Roots (Chap 10, pp 320-348)
Root apical meristems
zones
early vascular plants vs
monocots vs dicots
quiescent center
Gen't root functions
Root structure
root cap
epidermis
cortex
endodermis
stele types
pericycle
xylem & phloem arrangements
Root branching
location, origin
rain roots
Root → stem (transition)
Secondary development
cambium
Root specialties
storage roots
adventitious roots
aeration
mycorrhizae
root nodules