Plant Anatomy Study List -- Exam I

Basic nature of plants (Chap 2 - good review)
   Indeterminate growth form
General cell structure (Chap 3 thru p 51)
   Protoplasm, cytoplasm
   Apoplasma, symplasm
Membranes
   Lipid bylayer, proteins
   Nucleus
   Vacuoles
   Plastids
   Endoplasmic reticulum
   Golgi apparatus
   Cytoskeleton
   Cell Walls (Chap 4 to p 65 + p 73, 74)
      structure, composition
Cell types (pp 18 - 23):
   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 (pp 29-33)
   Gen’l functions
   Water transport process
   Cell types
      conducting
      non-conducting
      vessels vs tracheids
   Secondary wall structure
   Evolution of tracheary elements
Phloem tissue (Chap 12, skip pp 229-35)
   Cell types
   Sieve elements
      basic structure
      sieve cells
      sieve tube members
   Companion cells
   Development
      evolution
      cell maturation

Epidermis (Chap 8 thru p 151)
   Gen’l functions
   Cell types
      cuticle
      guard cells
   Surface projections
Meristems (Chap 5 thru p 96)
   Gen’l concepts
   Types of meristems
   Quiescent zone
   Pattern formation (regions of meristems)
Roots (Chap 16, skip “Auxin…” p 301)
   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 (p 261)
      adventitious roots
      aeration
      mycorrhizae
      root nodules