

GENERAL BOTANY Lecture 7 - Cell structure & function

- I. The cell**
 - A. Cells are fundamental organizational units of all living things**
 - B. Types of cells**
 - 1. Prokaryotic
 - 2. Eukaryotic
 - a) Plant
 - b) Animal
- II. Protoplast**
 - A. Protoplasm within membrane / cell contents without the cell wall**
- III. Organelles**
 - A. Cell wall**
 - 1. Plants
 - 2. Support, structure, & protection
 - B. Nucleus**
 - 1. Genetic information - DNA
 - 2. Cell regulation - "the brains"
 - C. Chloroplasts**
 - 1. Plants
 - 2. Photosynthesis
 - a) Thylakoids - light capture
 - b) Stroma - conversion to sugar
 - 3. Contain some DNA
 - D. Mitochondria**
 - 1. Energy from sugars
 - 2. Contain some DNA
 - E. Cytomembrane system**
 - 1. Packaging & transport
 - a) Golgi apparatus (dictyosomes)
 - b) Endoplasmic reticulum
 - c) Ribosomes
 - F. Microbodies**
 - 1. Peroxisomes - photorespiration
 - 2. Glyoxisomes - conversion of fats into sugars
 - G. Microtubules - movement & wall synthesis**
 - H. Ergastic materials**
 - 1. Starch grains - storage
 - I. Vacuoles**
 - 1. Storage
 - 2. Waste
 - 3. Water regulation