

7. Cells show 3 types of organization:

- . (a) **Prokaryotic cells** e.g., Bacteria, cyanobacteria, archaebacteria, mycoplasma (PPLO), rickettsiae. Size 0.1 to 5 micron ; DNA : RNA ratio 1 : 2, r-RNA-65%, A + T / G + C ratio = 0.88; only one envelope system; membrane bound organelles absent; histone, nuclear membrane, nucleolus, cyclosis meiosis absent.
- . (b) **Eukaryotic cell**. Size 3to30 micron,DNA:RNAis1:1,rRNA=45%, A +T/G+C ratio = 1.52; two envelop system, membrane bound organelles; histone and true nucleus present.
- . (c) **Mesokaryotic cell** e.g., Dinoflagellates (a type of algae) – histone protein absent but nucleus present.

8. Cell organelles (organoids) are of four types on the basis of membranes.

- . (i) Organelle bounded by single unit membrane. e.g., **Microbodies (peroxisomes, sphaerosomes, glyoxysomes, lysosomes), ER, golgi bodies.**
- . (ii) Organelle bounded by double membrane e.g., Plastids, mitochondria and nucleus.
- . (iii) Organelle bounded by triple membrane e.g. **Transosomes.**
- . (iv) Organelle without any membrane e.g., **Ribosomes**, centriole, nucleolus.

9. **Protoplasm** of eukaryotic cells shows of streaming movements known as **cyclosis** : It is of two types.

(i) **Rotation** (cytoplasm moves around a vacuole in one direction) e.g., Hydrilla leaf cells.

(ii) **Circulation** (movement in different direction around different vacuoles e.g., staminal hairs of Tradescantia (Rhoeo discolor). These movements are due to colloidal nature of cytoplasm and microfilament activities.