

ORIGIN OF LIFE

Important topics from the chapter-

Oparine- Haldane theory of Origin of Life.-

- Free atoms- hydrogen, carbon and nitrogen
- Inorganic molecules- water, methane, ammonia etc.
- Simple organic molecules- sugar, fatty acids and glycerol etc.
- Complex organic molecules- polysaccharides, proteins, lipids etc.
- Coacervates organic molecules bound by lipid membrane
- Eobionts- nucleic acid controlled coacervates
- First primitive cells

Miller's experiment-

- Miller and Urey recreated probable conditions of primitive earth in the laboratory.
- The effect of lightning of primitive atmosphere was created by two tungsten electrodes connected to an electric source.
- A large flask was connected to a small U tube passing through a condenser.
- A chamber containing HYDROGEN, AMMONIA, METHANE AND WATER VAPOUR was created representing the primitive atmosphere.
- The condensed liquid was collected. additional energy provided by heating.
- This contained amino acids. this confirmed the possibility of abiogenesis.
- These then formed complex molecules.

Coacervates

- Coacervates are cluster of complex organic molecules bound by fatty acids and divide by budding.