

**COURSE - M.SC. BOTANY, PART-II PAPER-
VII**

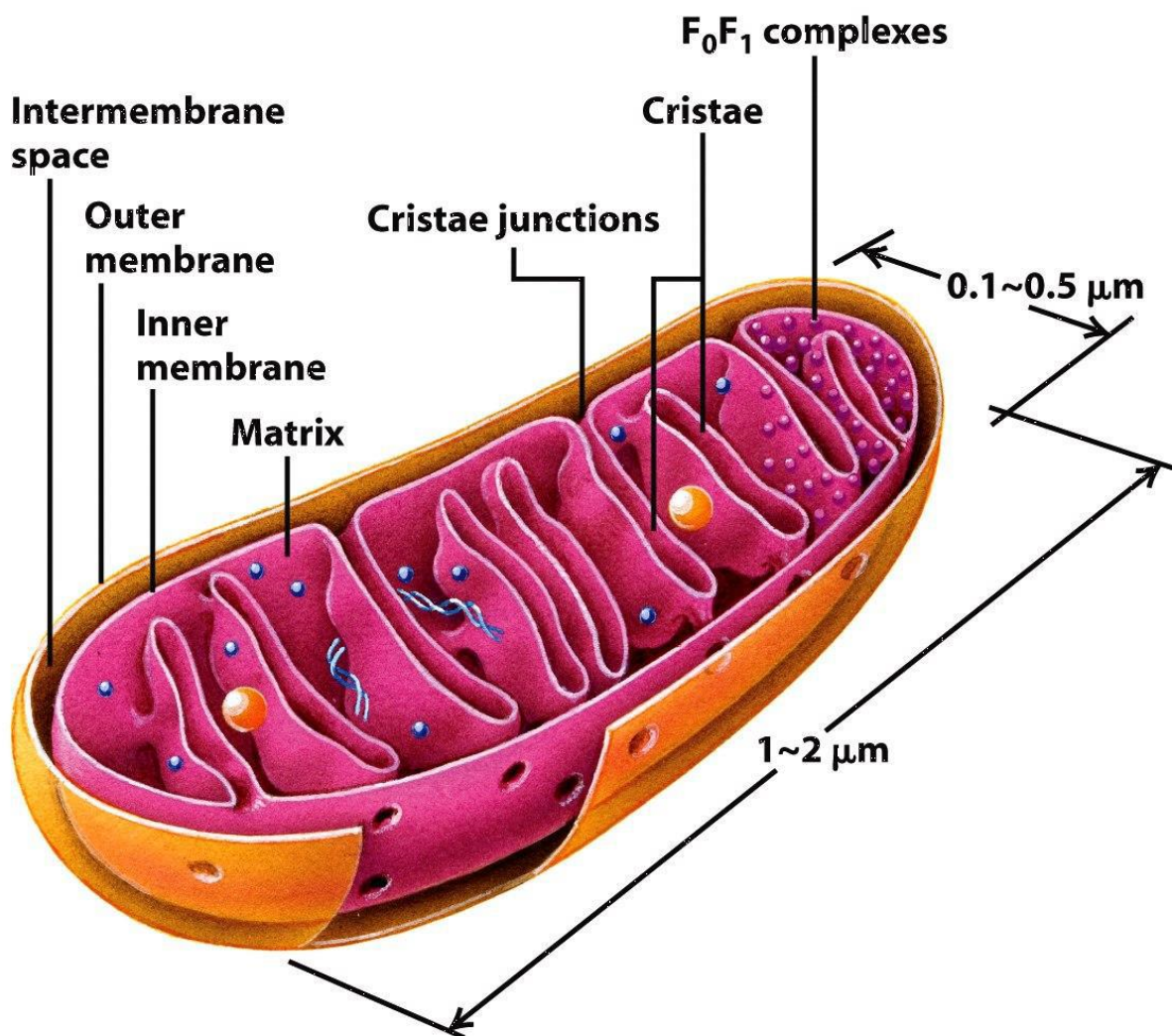
TOPIC-OXYSOMES(CELL BIOLOGY)

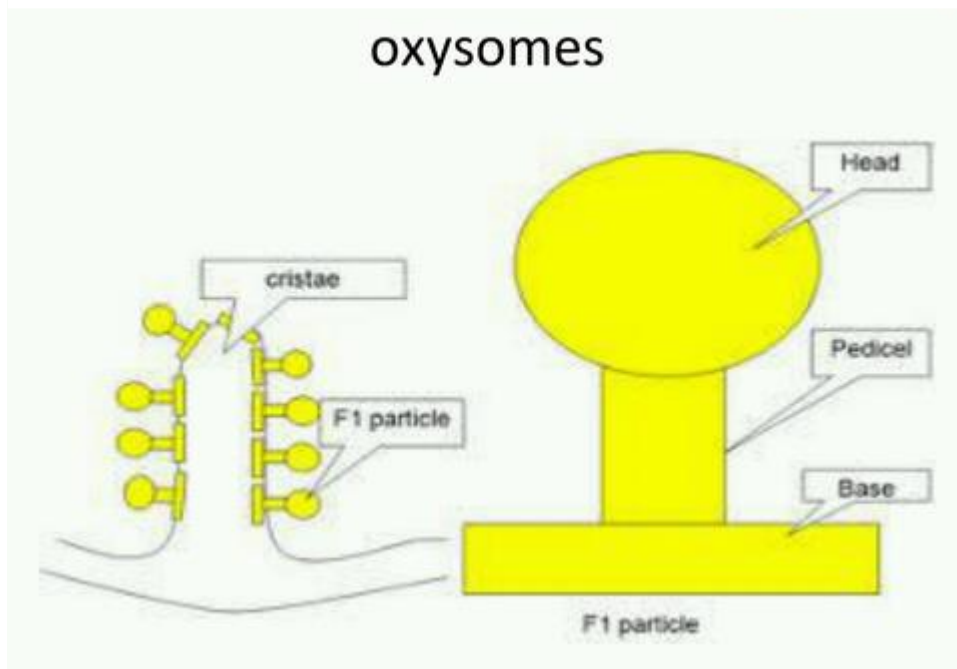
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Oxysome

The oxysomes are the particles present on the cristae of mitochondria (inner folding of the inner membrane of mitochondria). They are also called elementary particles, oxysomes or F-1, F-0 particles. (F stands for Ferdinand - scientist who discovered them) .These particles are approximately 8.5 nm in diameter. These particle are regularly spaced at intervals of 10 nm on the inner surface of the se membranes. According to some estimates, there are 104 to 105 elementary particle per mitochondrion. It help in ATP production and oxidation. They plays an important role in electron transport chain.





When the mitochondrial cristae are disrupted by sonic vibration, sub mitochondrial particle (sonic particles) are obtained and oxysomes are seen attached on their outer surface. These sub mitochondrial particles are responsible for respiratory chain phosphorylation. However, in the absence of oxysomes, the particles lose their capacity of phosphorylation. The oxysomes have been identified as molecules of ATPase enzyme responsible for catalysing the terminal step of ATP synthesis.