Points to remember

- They produce cellular energy in the form of ATP; hence they are called power houses of the cell.
- Mitochondria are the sites of aerobic respiration
- synthesis of ATP from ADP and inorganic phosphate.
- Inner mitochondrial matrix contains F0–F1 particles. F1 is a peripheral membrane protein complex that synthesises ATP from ADP and inorganic phosphate.
- Lacking oxygen, yeast performs anaerobic respiration and Human muscle cells sometimes undergo anaerobic respiration. Anaerobic respiration in muscles provides extra energy during strenuous exercise.
- Glucose is given instead of protein Because glucose gets absorbed by body at a faster rate than protein when we need instant energy.
- Aerobic cell respiration is roughly 18 times more efficient than anaerobic cell respiration.
- aerobic respiration, a single molecule of glucose can yield up to 36 ATP molecules.
- Hexokinase catalyses the conversion of glucose to glucose-6-phosphate.
- Enzymes of TCA cycle are present in mitochondrial matrix.
- Glycolysis occurs in cytosol.
- Glycolysis operates as long as it is supplied with NAD that can pick up hydrogen atoms.
- oxidative phosphorylation is formation of ATP by energy release from electrons removed during substrate oxidation.
- The energy releasing metabolic process in which substrate is oxidized without an external electron acceptor is called as fermentation.
- Aerobic respiratory pathway is appropriately termed amphibolic.
- Red blood mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically.
- Oxidation of one molecule of NADH gives rise to 3 molecules of ATP and that of one molecule of FADH2 produces 2 molecules of ATP.
- the overall goal of glycolysis, kreb's cycle and the electron transport system is the formation of ATP in small stepwise units.
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