

- What are phases of cellular respiration
- Identify the importance of mitochondria in the cellular respiration
- Mention the cells that are not able to do cellular respiration
- Describe in brief/ illustrate the mechanism of the major shuttle in most tissues and mention its biological importance
- Describe Malate shuttle mechanism and mention its biological importance
- Identify the enzymes and coenzymes of pyruvate dehydrogenase complex PDC
- Mention 2 different regulatory mechanisms of PDH complex and describe one of them
- Mention 2 fates of the pyruvate other than acetylCoA
- List some causes of abnormalities of PDC
- Why alcoholic patient develop lactic acidosis / Why patient with defective oxidative decarboxylation develop lactic acidosis
- Mention NAD-dependent enzymes in TCA cycle
- Mention FAD-dependent enzymes in TCA cycle
- Mention the step of substrate level phosphorylation in TCA cycle
- Enumerate the vitamin B complex that play an important role in the TCA cycle
- Calculate the energy yield from complete oxidation of one molecule of glucose under aerobic or anaerobic condition
- What are the main regulatory enzymes in TCA cycle
- Is the TCA cycle Catabolic, Anabolic, or both , explain
- Explain the anaplerotic reactions of TCA cycle and major reaction
- Describe the molecular basis of cystic fibrosis
- Describe the molecular basis of alpha 1 antitrypsin deficiency
- How can smoking affect alpha 1 antitrypsin activity?
- What are the complexes that generate ATP in ETC
- Complete, ... serve as the common intermediate that couples oxidation to phosphorylation
- Complete, there is no mechanism for of ATP
- Name an uncoupler and explain its mechanism of action
- What are inhibitors of complex IV
- List 3 different 'types' of ETC inhibitors
- List the 4 subgroups of oxidoreductases and define one of them
- What are the head groups that are inserted into diacylglycerol as CDP-head group
- How can you determine the lung prematurity
- How respiratory distress syndrome is prevented in infants