

ODOMENE JUSTICE

17/SCI03/006

BCH312 ASSIGNMENT

2. Energy is present in a variety of forms which are interconverted. Whenever energy is used for executing a task or when one form of energy is converted into another, there is a loss of energy. This has led to two fundamental laws of thermodynamics, state them.

First law of thermodynamics:

The first law of thermodynamics states that in any physical or chemical change, the total energy of a system including its surroundings remains constant. Consequently, whenever energy is used for executing a task or is transferred from one kind to another, the total amount of energy is unchanged.

Second law of thermodynamics:

The second law of thermodynamics states that the total entropy (the degree of disorder or randomness in a system) of a system must increase if a process is to occur spontaneously.

1. Itemize what heterotrophic cells do with the free energy obtained from the degradation of molecules.

- They use this energy to operate and to construct even more cellular material.
- Free energy dictates metabolic processes and biological treatment benefits by selecting specific metabolic pathways to degrade compounds.
- A measurement of free energy is used to quantify energy transfers.