1. What is Biotechnology?

Biotechnology, from the word itself, is the combination of “bio” which means life, and “technology” referring to the application of science for a certain purpose. This means it is the application of science to manipulate living organisms or systems for human use, with a focus on improving human health and society. It has existed since the beginning of civilization with the domestication of plants and animals and, encompasses the use of living cells to develop new products and methods.

1. Describe Biotechnology

Biotechnological innovations are already part of our daily lives and we find them in pharmacies and supermarkets, among many other places. Biotechnology will therefore play a crucial role in the society of the future in preventing and containing potential pathogens. But this is just one of its many applications.  
  
Today, the five branches into which modern biotechnology is divided — human, environmental, industrial, animal and plant — it help us fight hunger and disease, produce more safely, cleanly and efficiently, reduce our ecological footprint and save energy.

1. History of Biotechnology.
2. Explain how Biotechnology works in different focus area   
   Like the stripes of the rainbow, the different biotechnology applications are grouped generally into seven colors or research and development areas. In this section, we highlight the most relevant of each of them.

Types of Biotechnology:

* Red biotechnology. This is the health branch and responsible, according to the Biotechnology Innovation Organization (BIO), for the development of more than 250 vaccines and medications such as antibiotics, regenerative therapies and the production of artificial organs.
* Green biotechnology. It is used by more than 13 million farmers worldwide to fight pests and nourish crops and strengthen them against microorganisms and extreme weather events, such as droughts and frosts.
* White biotechnology. The industrial branch works to improve manufacturing processes, the development of biofuels and other technologies to make industry more efficient and sustainable.
* Yellow biotechnology. This branch is focused on food production and, for example, it carries out research to reduce the levels of saturated fats in cooking oils. Its main function is to genetically improve products so that there is a higher quantity or quality of food
* Blue biotechnology. This exploits marine resources to obtain aquaculture, cosmetics and health care products. At the environmental level, the aim is to preserve marine species and ecosystems. In addition, it is the branch most widely used to obtain biofuels from certain microalgae.
* Grey biotechnology. Its purpose is the conservation and restoration of contaminated natural ecosystems through, as mentioned above, bioremediation processes.
* Gold biotechnology. Also known as bioinformatics it is responsible for obtaining, storing, analyzing and separating biological information, especially that related to DNA and amino acid sequences.

1. Describe some of the application areas of Biotechnology
2. Is there Biotechnology in the Philippines?
3. Pros and Cons of Biotechnology