Assignment-II

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Introduction:-

During the twenty first century biotechnology is one of the science disicplines that has undergoes the most rapid development, with significant implicants for our society.

Biotechnology applications raise ethical, social and philosophical questions, it is the public that judges their desirability and determines their success.

Therefore, it is important and primary education fasters biotechnological literacy early in children schoolmg. such literacy early in children's schooling such literacy often contains knowledge and attitude dimensions.

In response to the biotechnology revolution many curricula around the world now include biotechnology. However, their poses educational challenges to teachers. Especially primary teachers, who often have limited biotechnology knowledge.

Biotechnology is not a new disciplane, but it is advancing by leaps and bounds and it has more applications in our day to day lives from pharmaceutical developme-nt. to food production and the treatment is polluting waste. We explore the exciting field below and try to determine how far it might go in the future.

The development of insulin, the growth hormone molecular identity and diagnostics gene therapies and vaccines such as hepatitics B are some of the milestone of biotechnology and its alliance with genetic engineering.

The revolution of the new smart materials hand in hand biothechnology has only just begun soon we could have self healing concrete, plants that change colour when they detect an explosive, clothing and footwear made with synthetic spider web etc.

Importance of Biotechnology:-

Biotechnology is particularly important in the field of medicine where is facilitates the product the therapeutic proteins and other drugs.

Synthetic insulin and synthetic growth hormone and diagnostic tests to detect various diasease are just some examples of how biotechnology is impacting medicine. Biotechnology has also proved helpful in refining industrial process in environmental cleanup, and in agricutural production.

Biotechnology is a wide disciplame that harmness cellular and biomolecular process to develop technologies that help in improving that health and lives of people.

Health care :-

Biotechnology is applied in the development of pharmaceutical that had proven problematic when produced through conventional means due to purity concerns.

The applications of biotechnology include therapeceticy diagnostics, genetically modified crops for agricultural, processed food, biomeditation, waste treatment and energy production

Disciplines are covered in biotechnology:-

Today the five branches into which modern biotechnology is divided - human development, industrial animal and plant - help us fight hunger and diesease produce more safety, cleanly and efficienly, reduce our ecological footprint and save energy.

One of the most important applications of biotechnology is the production of biofuels this is regarded as an alternative form of energy that can be lead that is deneficial to the environment biotechnology can generate biofuels form waste products.

The nutritional content in our foods has improved with the help of biotechnology.

Biotechnology :-

Biotechnology is the field that exploits having organism to make technological advances in various fields for the sustainable development of mankind. It has its application in the medical as well as agricultural sectors. The biological process of living organisms have been used for more than 6000 years to make essential products such as bread, cheese, alchol etc

Medical biotechnology :-

Medical biotechnology involves the use of living cells to develop technologies for the improvment of human health. It involves the use of these tools to find more efficient ways of maintaing human health it also helps in the study of DNA to identify the causes of genetic disorder the method to cure them.

Agricultural biotechnology:-

The field deals with the development of genetical modified plants by introducing the gene of intrest in the plant. This is turn, helps in increasing the crop yield.

various pest-resistent crop such as Bt-cotton and Bt-brinjal are created by transferring the genes from Bacillius thuringiensis into the plants.

The animals with most desirable charecteristics are together to obtain the offspring with the desired traits.

* The benefits of biotechnology are tangible the at the same time some warn of its possible adverse effects on the environment, health and ethics.

It reduces CO_2 emission by 52%. optimizes the use of water and reduces waste chemical process thanks to technique such as recombinant DNA

Types of Biotechnology:-

like the stripes of the raibow, the different biotechnology applications are grouped into seven colour (or) research and developm-ent areas. In the section we highlight the most relevant of each of them.

* Red biotechnology this is the health branch and responsible, according to the biotechnology innovation organization.
* Green biotechnology. It is used by more than 13 million farmers worldwide to fight pests.
* White biotechnology. The industrial branch works to improve manufacturing process. The development of biofuels.
* 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.

Blue biotechnology. This exploits marine resources to obtain aqua culture cosmetics and health care. In addition, it is the branch most widely used to obtain biofuels from certain microglue.

* Grey biotechnology. Its purpose is the conservation and restoration of contaminated natural ecosystems through as mentioned above, bioremedication process.

* Gold biotechnology. Also known as bioinformatics it is responsible for obtaining storing, analysing and seperate biological information especially that related to DNA and Amino acid sequences.