

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

Class 12th

Sub. Biology

Date:- 14.07.2020

Based on NCERT patterns

Regulation Of Gene Expression

- Expression of a gene to form polypeptide can be regulated at different levels in eukaryotes
 1. At the time of formation of a primary transcript, i.e. transcription
 2. At the time of processing or splicing
 3. At the time of transportation of mRNA from the nucleus to the cytosol
 4. At the time of protein synthesis, i.e. translation
- Gene expression is regulated by environmental, physiological and metabolic conditions
- The development and differentiation of embryo is a result of coordinated regulation and expression of several sets of genes
- Control of gene expression in prokaryotes is mainly at the initiation of transcription
- The activity of RNA polymerase at the start site is regulated by regulatory proteins, which can be a repressor or activator
- The accessibility of the promoter region is regulated by an operator sequence adjacent to it, that binds with the specific protein, mostly a repressor. There is a specific operator and repressor protein in a specific operator

Few Important Questions

- What is Polymorphism?
- What is DNA fingerprinting?
- List out the functions of Promoter?
- Differentiate between mRNA and tRNA?
- List out the goals of the Human Genome Project?