Date:
Page No.

In other strand the DNA polymerase produces short segments of DNA molecules These segments or fragments are known as 'Okazaki fragments' and the strand is known as 'lagging strand'.

The short fragments or 'okazaki segment' are again joined together by another enzyme known as DNA lygase.

Proof reading:-

Proof reading and DNA repair-
During the process of replicati n accuracy of base pairing essential even then error takes place it may be one in ten thousand which is finally rectified by removing the wrong base and replacing the correct one. it occurs by repair enzyme. Proof reading ensures the formation of identical DNA strands

These enzymes are capable to break the lactose into glucose and galactose.

The lactose operon has five specefic genes known as a regulator gene which is also known as inhibiter, The operator gene and 3) Structural genes which are known as Z, Y, A.

They are capable to code for three enzymes which has been described as above.

'Z' gene codes for β galacto -cydase which is helpful in hydrolysis of lactose into galctose and glucose.

'Y' gene codes for permease. which is capable for permeability of the cell to β galcocydase.

'A' gene codes for trans-acetylase they are located adjacent to each other they are collectively known as structural genes because they contain the information to determine the sequence of amino acids present in the proteins.

All the three genes are regulat by a single gene known as operator which is present at the begigning of cistron 'Z'. The operator and the structural genes are collectivel known as 'operon' which acts like a switch (Operator gene is off or on).

The function of opercitor gene is dependent on a regulator gene known as inhibiter gene which is found at some distance away from it.
~~The repressure~~

Bimal

Date:

Page No.

The inhibitor gene regularly transcribes messenger RNA to produce repressure protein. lactose is the substrate for enzyme β galactosydase. hence it is called inducer

In the absence of Inducer:-

Repressure protein may bind with the operator gene

↓

It blocks the activity of operator gene. (turned off)

↓

No enzyme is foorm.

In presence of Inducer:- (lactose)

↓

The repressure protein may not bind with the operator gene.

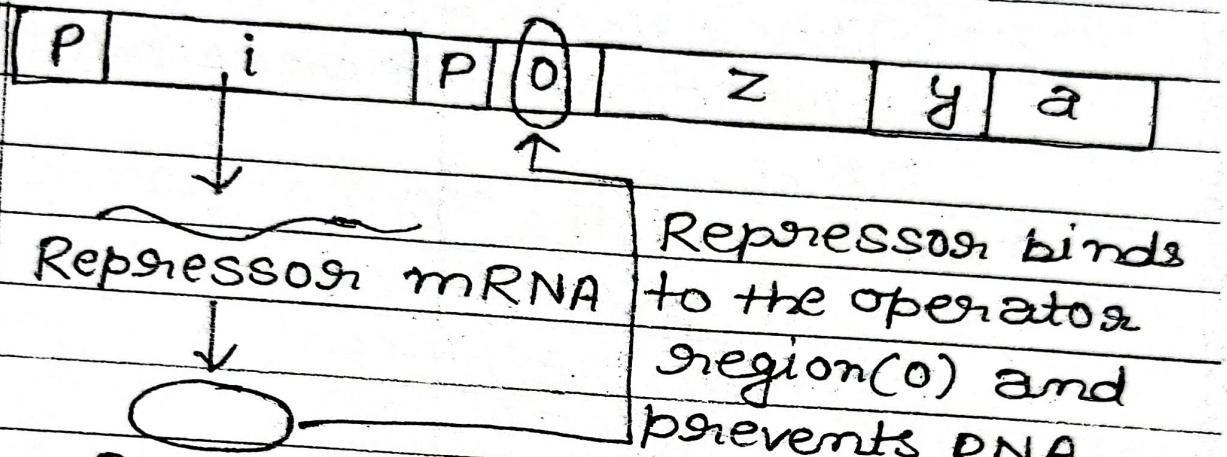
↓

The operator gene remains active and enzymes are form (turned on)

Bimal
Date:
Page No.

The three structural gene express themselves and finally enzymes are form.

In absence of inducer



In presence of inducer.