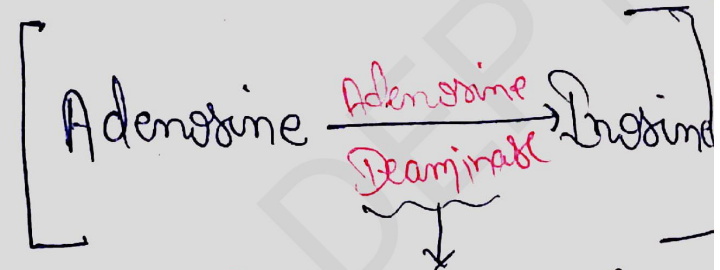
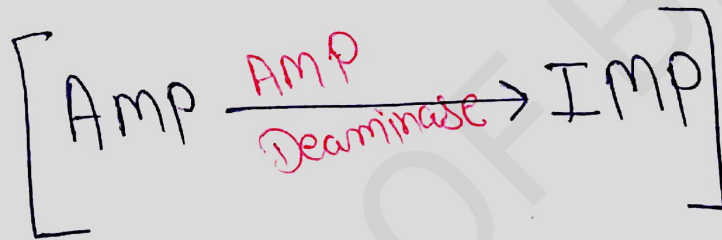
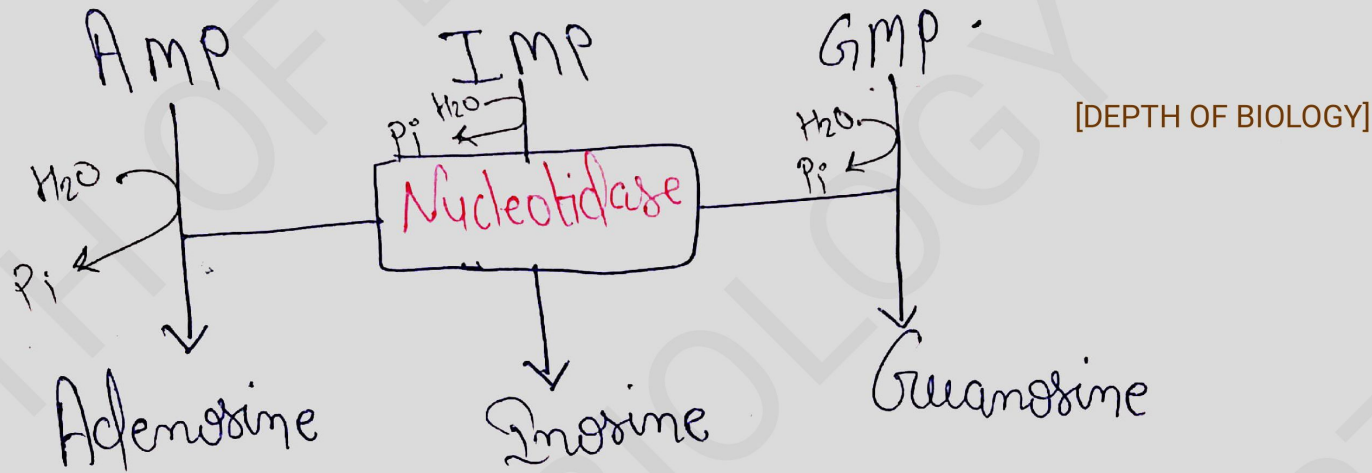
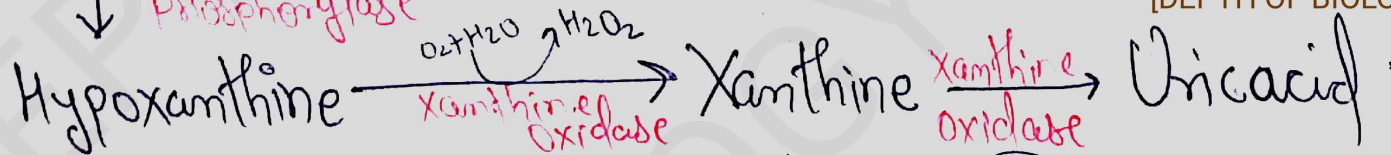


Purine Nucleotide Catabolism $\Rightarrow$ A, G

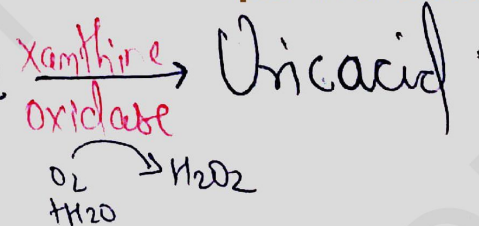


• Inosine

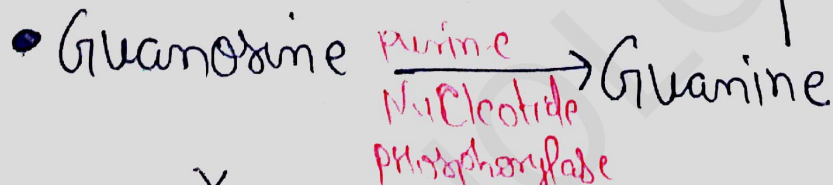
$\downarrow$ Purine Nucleotide Phosphorylase



[DEPTH OF BIOLOGY]



[DEPTH OF BIOLOGY]



SCID $\xrightarrow[\text{to}]{\text{Lead}}$ deficiency of Adenosine deaminase

DNA Replication (Semi Conservative)

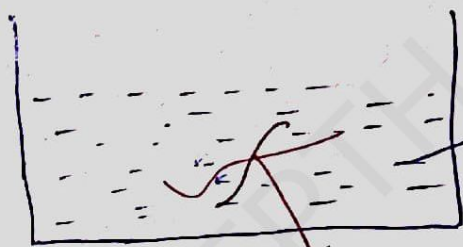
[DEPTH OF BIOLOGY]

* Meselson & Stahl

↓
Perform the following
Experiment in 1958.

DNA के 2 replica/copy बन रहे हैं।

————→ Parental strand.
————→ New strand.



Heavier Isotope (N^{15}) of Nitrogen.

NH₄Cl Soln.

E-coli DNA



Transfer into Normal Nitrogen Medium.



[DEPTH OF BIOLOGY]

NH₄Cl (But N^{14})

E-coli DNA

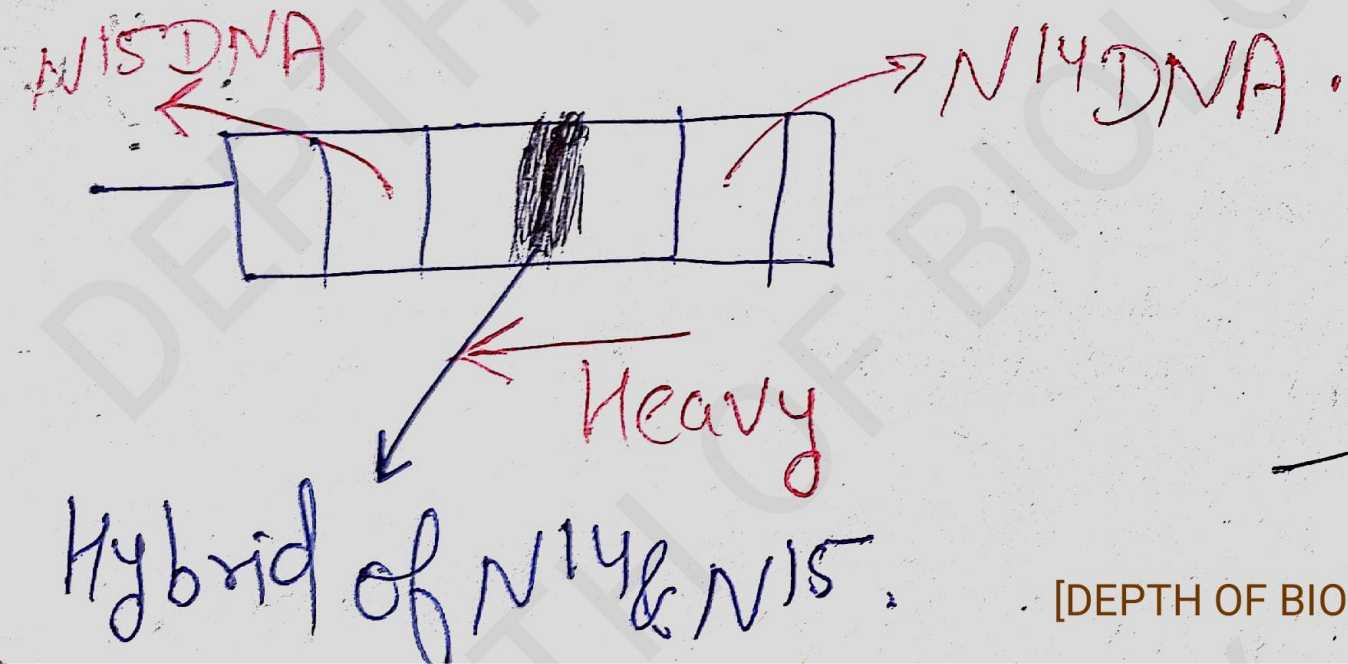
⇒ Took Sample at Various definite

Time Interval as the Cell multiplied & Extract the DNA.

Thus the DNA that was extracted from the culture one generation after the transfer from N^{15} to N^{14} medium.

(i.e. after 20 minutes; E-coli divides in 20 Minutes) Had a hybrid or Intermediate density

[DEPTH OF BIOLOGY]



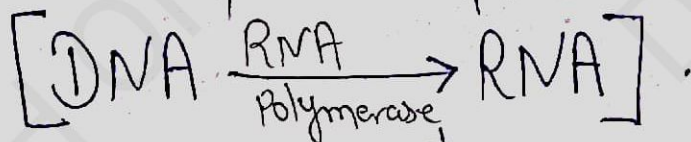
Semi Conservative

[DEPTH OF BIOLOGY]

Transcription $\Rightarrow$ [UNIDIRECTIONAL].

→ Process of Copying genetic Information from one strand of DNA into RNA is termed as Transcription.

[DEPTH OF BIOLOGY]



- The principle of Complementary ^{it} governs the process of transcription. $[A=T, G=C]$ in DNA $[A=U, G=C]$ in RNA.

- RNA is least stable compound. $\rightarrow$ इससे, Thymine $\ominus$ Uracil $\oplus$.

- Adenosine now forms base pair with Uracil.

- In transcription, only a segment of DNA & only one of the strand is copied into RNA.

[DEPTH OF BIOLOGY]

Means only one strand of DNA is used to make RNA with the help of RNA Polymerase.

* If both strand act as template they would code for RNA molecule with different sequence. $\rightarrow$ The two RNA molecule is produced simultaneously would be complementary to each other hence would form a dsRNA.

Process of Transcription

[DEPTH OF BIOLOGY]

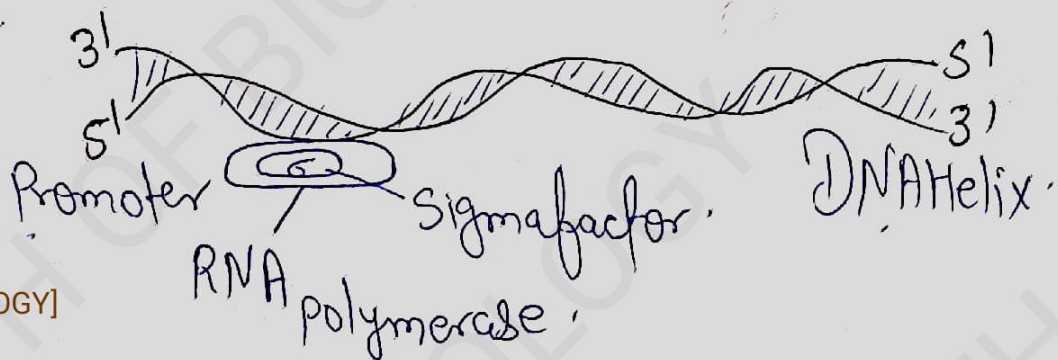
⇒ Initiation = (RNA polymerase ^{in prokaryotes} decide where (site) ← Initiation Transcription start.

- The place where transcription is start.
- In Eukaryote (σ) factor recognises the promoter side of DNA.
- DNA dependent RNA polymerase that catalyses the transcription of all types of RNA in Bacteria.

[DEPTH OF BIOLOGY]

[from 5' → 3']

- RNA polymerase binds to promoter & Initiates transcription (Initiation).



[DEPTH OF BIOLOGY]

Elongation ⇒

In Prokaryotes = (RNA polymerase ^{core enzyme})

- The RNA polymerase (core enzyme) in the presence of energy & Mg^{+2} can catalyze the process Elongation.

[DEPTH OF BIOLOGY]

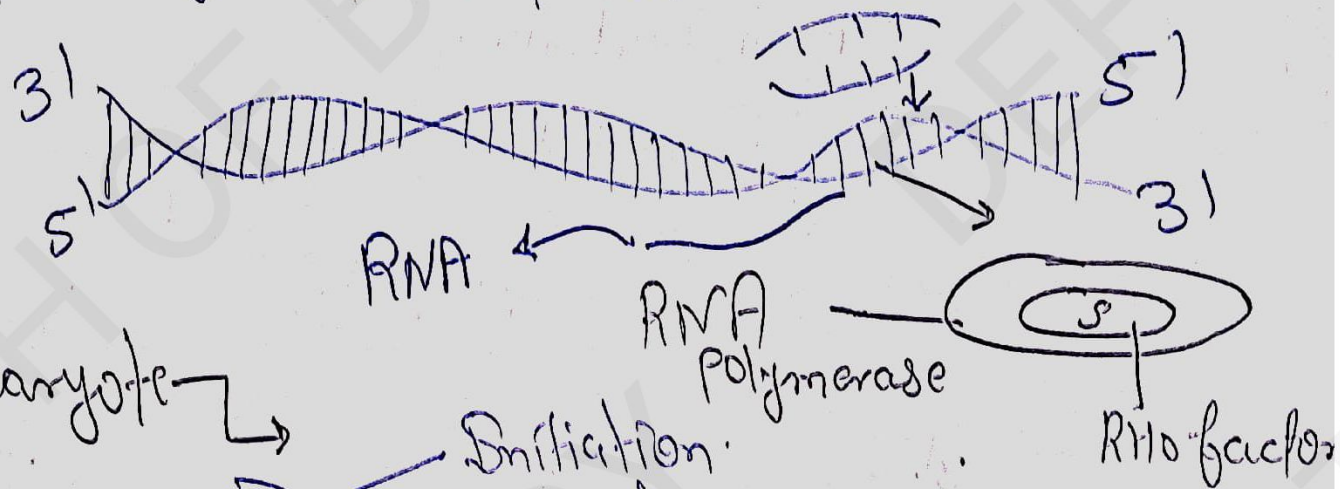
- Sigma factor separates & core enzyme move along the antisense strand till it reach terminator site.



Termination $\Rightarrow$

When RNA polymerase enzyme reaches a terminator site, it separates from DNA Template. [DEPTH OF BIOLOGY]

- At terminator site on DNA, 12 Bases are $\oplus$ in palindromic sequence (MALYALAM).
- Rho factor recognises terminator site.



In prokaryote $\Rightarrow$

RNA polymerase $\Rightarrow$ $\begin{cases} \text{Initiation} \\ \text{Elongation} \\ \text{Termination} \end{cases}$

[DEPTH OF BIOLOGY]

Eukaryote $\Rightarrow$ Initiation = σ Factor

Termination = ρ -factor

[DEPTH OF BIOLOGY]

Protein Synth. Inhibitor $\Rightarrow$

Complex process of Protein synth. Inhibited by Antibiotics.

[DEPTH OF BIOLOGY]

They block the protein synthesis occurring in Prokaryote & do not cause any harm to Higher Organism.

Some of the Antibiotics $\Rightarrow$ [DEPTH OF BIOLOGY]

