

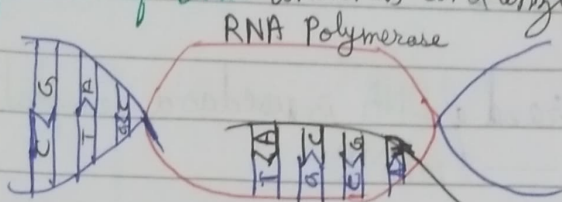
## Transcription:

In transcription, RNA transcript (pre-mRNA) is processed and becomes mature mRNA.

Here, DNA transcribed → mRNA [starts at start codon (AUG)]

The Site of Transcription is RNA Polymerase  
Transcription involves following steps:-

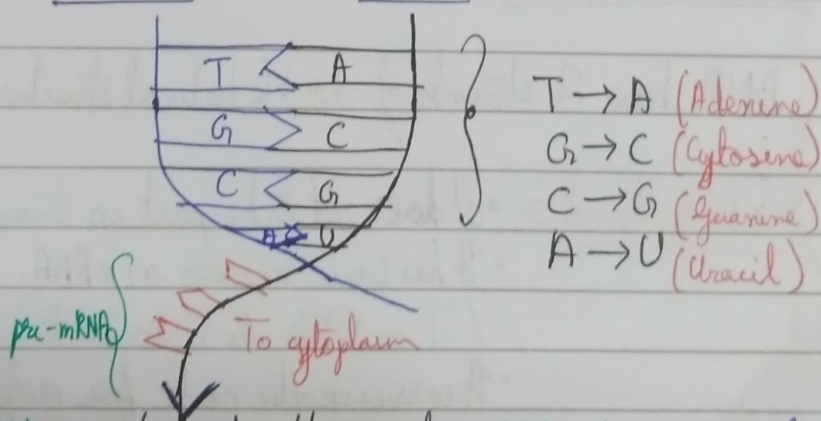
- 1) A segment of DNA unwinds and unzips



- 2) DNA serves as a template for mRNA formation
- 3) RNA polymerase is responsible for joining RNA nucleotides
- 4) Codons in mRNA are complementary to triplet code in DNA

DNA

RNA

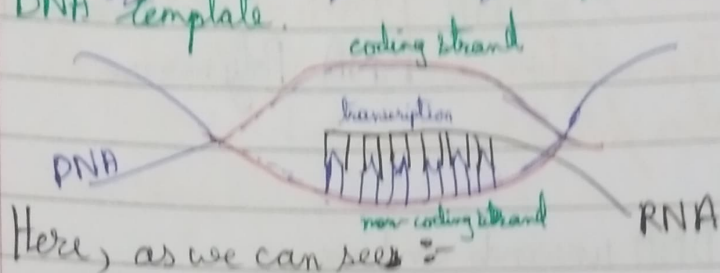


- 5) pre-mRNA is formed after exiting RNA polymerase while transcription is going on.
- 6) pre-mRNA is processed during transcription and when stop codon is encountered, transcription stops (UAA/UAG/UGA)

## RNA Polymerase :-

RNA Polymerase in nucleus is an enzyme (type of protein)

This enzyme is responsible for synthesizing RNA from a DNA template.



Here, as we can see :-

One of the 2 strand of DNA is used as a template for RNA synthesis  $\rightarrow$  mRNA

## Function of RNA Polymerase :-

RNA polymerase catalyzes formation of RNA strands by linking together ribonucleotides in a sequence complementary to the DNA template strand.

## DNA strand :-

DNA has 2 strands of double helical structure

- 1) Coding Strand :-
  - It ~~does~~ not take part in transcription (RNA polymerase)
  - It has same sequence as mRNA (T in DNA & U in RNA)
  - It carries genetic code for protein synthesis
- 2) Non-Coding Strand :-
  - It takes part in transcription (RNA polymerase)
  - Its sequence is complementary to mRNA
  - It acts as a template strand for mRNA synthesis