



# Section - C

Ans = 9

## # Mendelian Principles ÷

### Outline ÷

- Law of Dominance ✓
- Law of Segregation ✓
- Law of Dominant ✓

→ Mendal Success

Mendal Law ÷

<p>           a            citizen            work            on            But            he            by            local            Mendal            work            on         </p>	<p>           Mendal            was            a            citizen            Mendal            start            his            animal            nice            was            approach            people            do            Mendal            deciding            to            plant            of         </p>
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firstly of Mendal was a cheser  
 plant pea.

Because pea plant is a self-fertilizing plant. So self-fertilization was possible. Mendel was chosen for the pea plant because it is a dioecious plant and self-fertilization is possible.

Mendel's Law :-

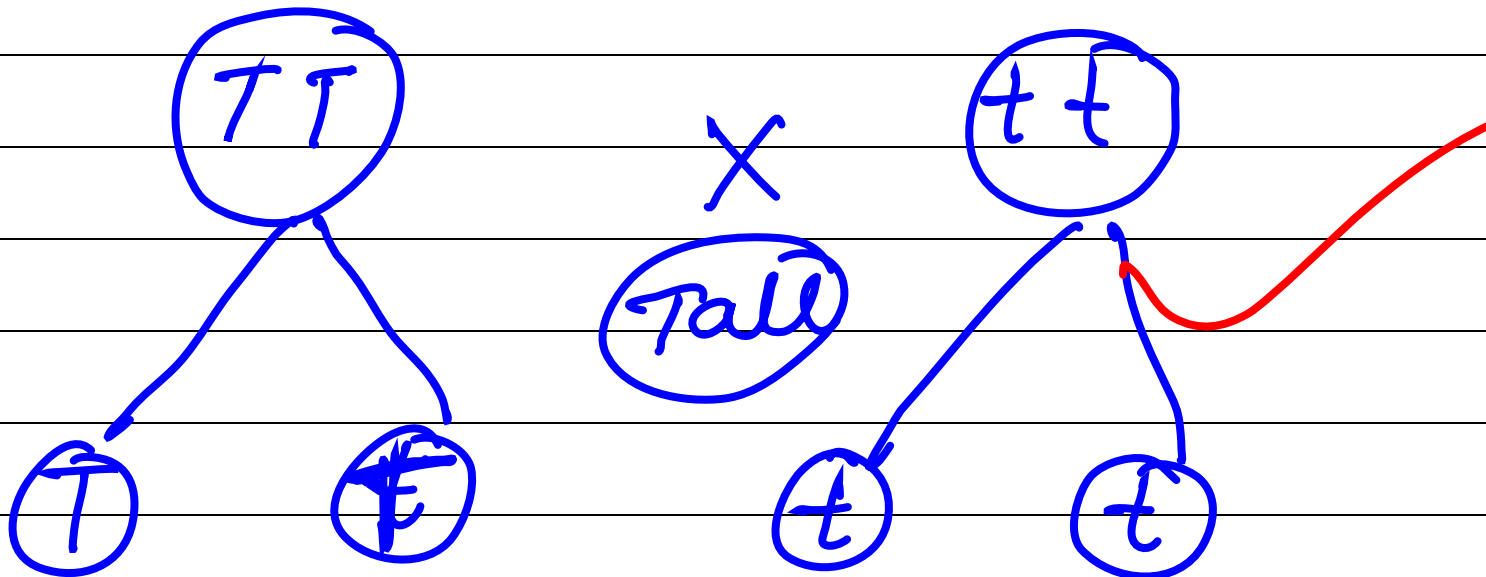
Mendel was given a three-law.

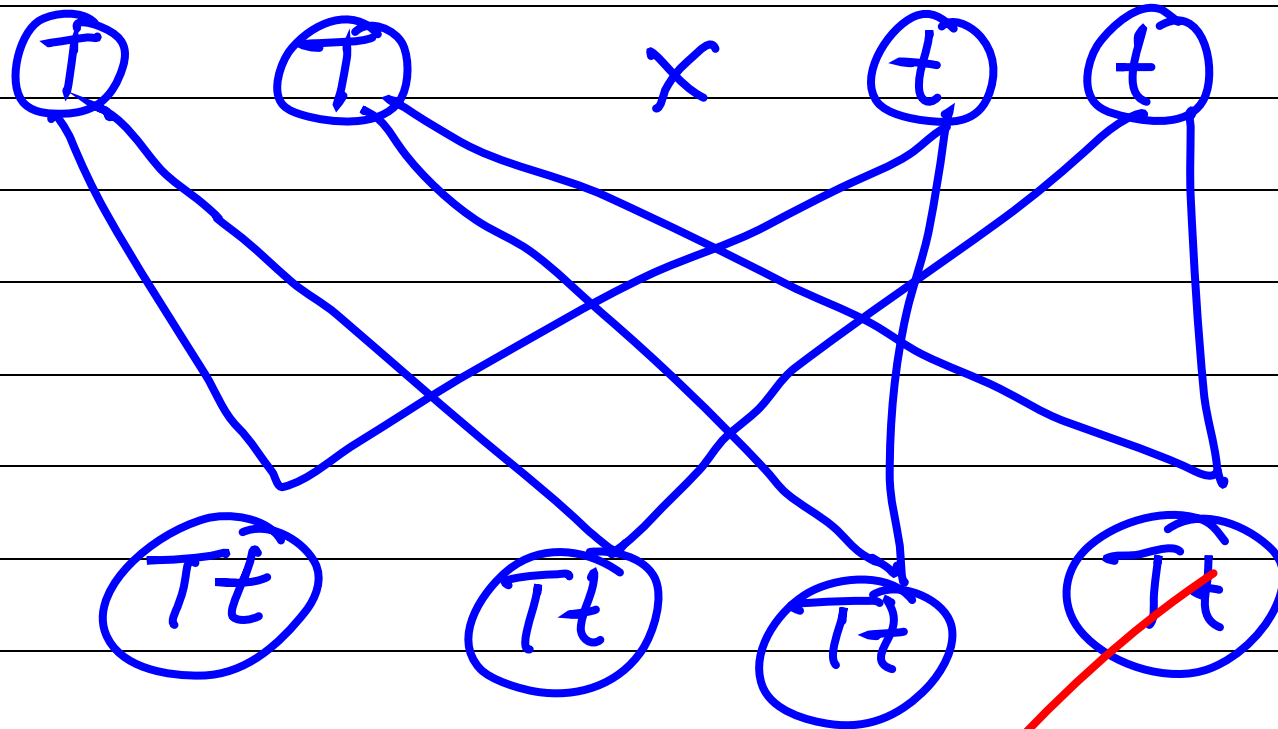
Law of Dominance

→ Law of Segregation  
 → Law of Independent Assortment

Assortment

## # Law of Dominance ÷



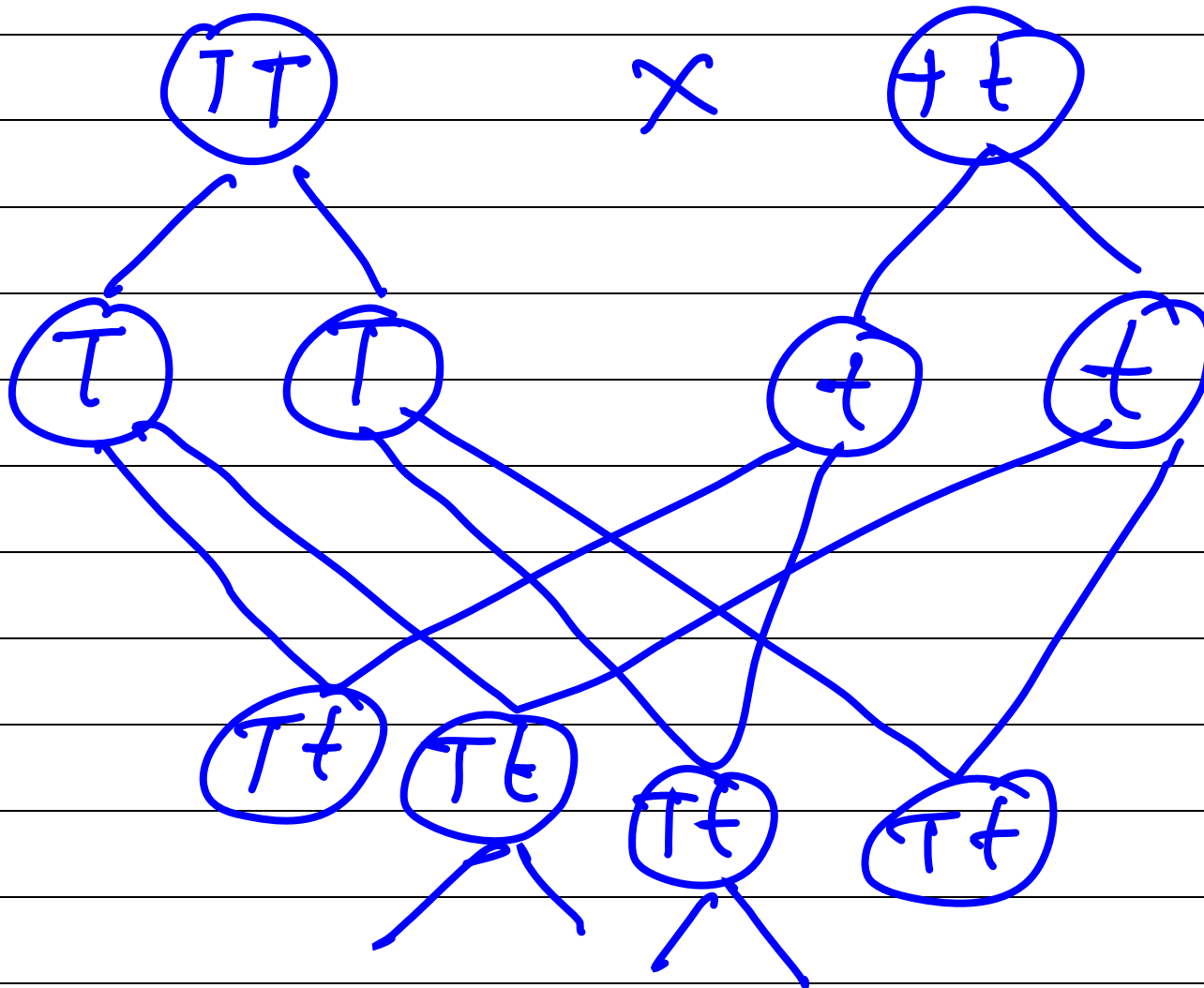


All plant are Tall

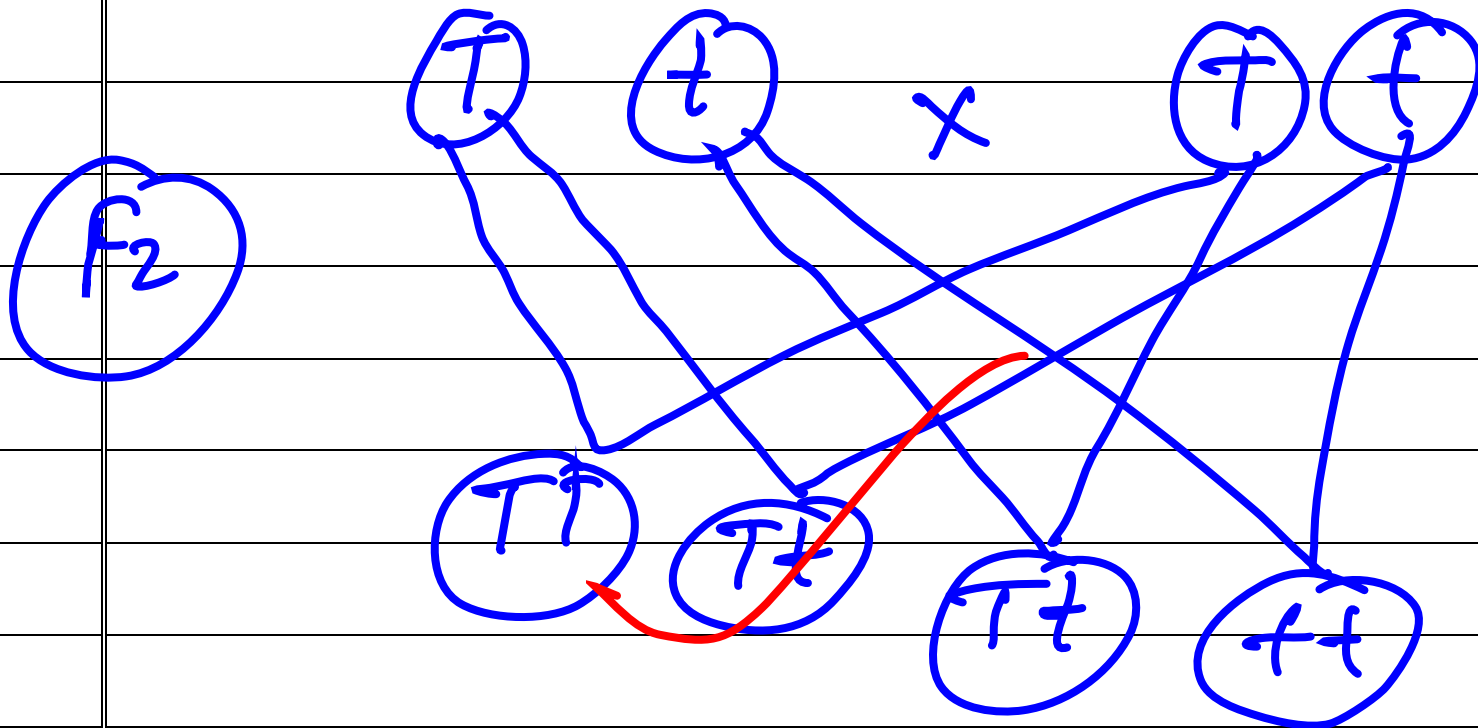
If we make a cross between two pure form of a characters, The form which appear

in 1<sup>st</sup> generation it's called  
 dominant form and which  
 characters does not appear  
 in 1<sup>st</sup> generation it's  
 called recessive form  
 we cross Tall and Short  
 plant The characters  
 or show 1<sup>st</sup> generation Tall  
 is dominant form.  
 and these characters are  
 not form in 1<sup>st</sup> generation  
 dwarf is recessive form.

# ★ Law of Segregation -







phenotype ratio

3 : 1

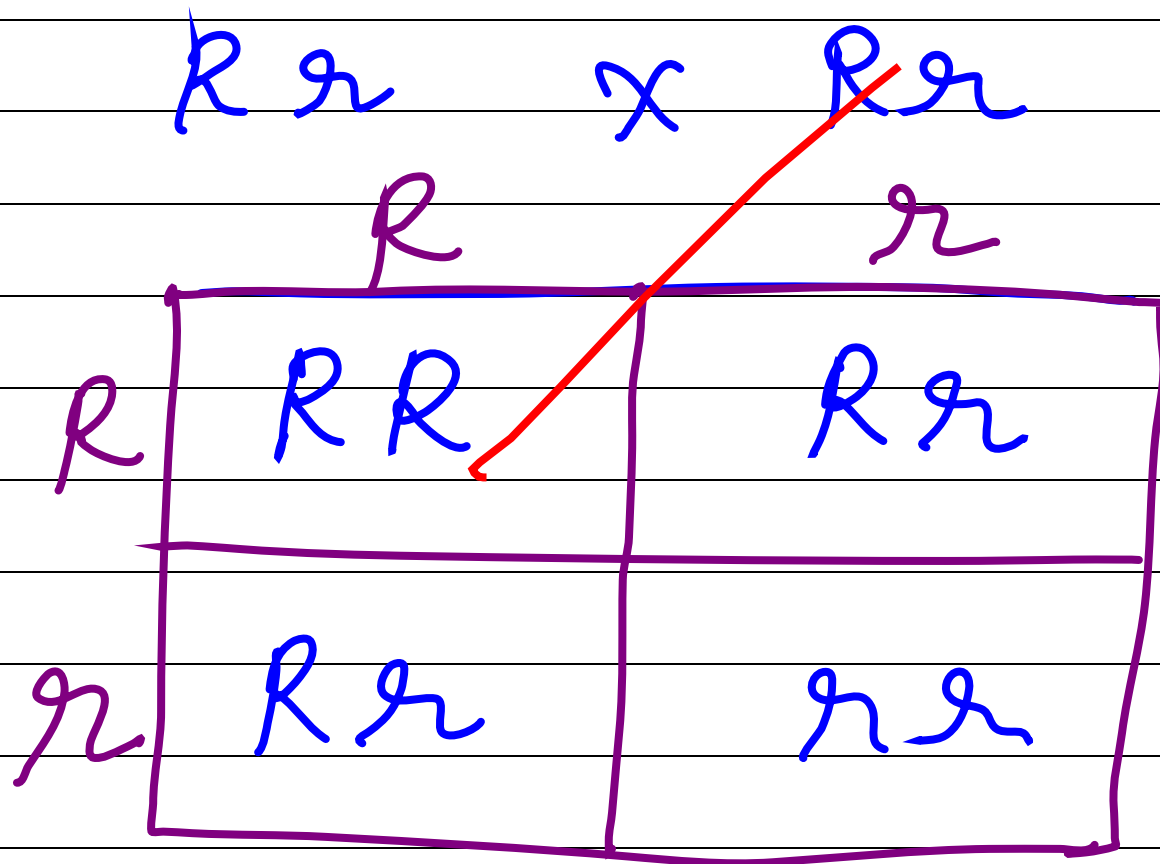
Genotype ratio

1 : 2 : 1

The characters which does not appear in 1<sup>st</sup> generation. But they cross are again in f<sub>1</sub> generation and they characters are appear in f<sub>2</sub> generation. This is called Law of Segregation.

Law of Independent  $\div$

Law of independent are  
also called True.



Gen = = 1:2:1

If cross are Tall and Dwarf  
 So if found in  
 Tall and dwarf  
 it is Law of  
 Independent.

Mendel Success :-

Many scientist  
 starting the work of  
 genetics But Mendel  
 was success because  
 other scientist are

Located in the plant on  
 measurement, crop Not a  
 Mechanism But Mehda  
 was Only focus  
 of the mechanism  
 not a crop measurement.

- Mendal was a mathematical  
 so he given a raw  
 data But Not a  
 given a given raw data  
 of other scientist!

Ans = 10

Numerical Alterations of  
Chromosome ~

Summary

Chromosomal abnormality

→ Numerical "

→ Structural "

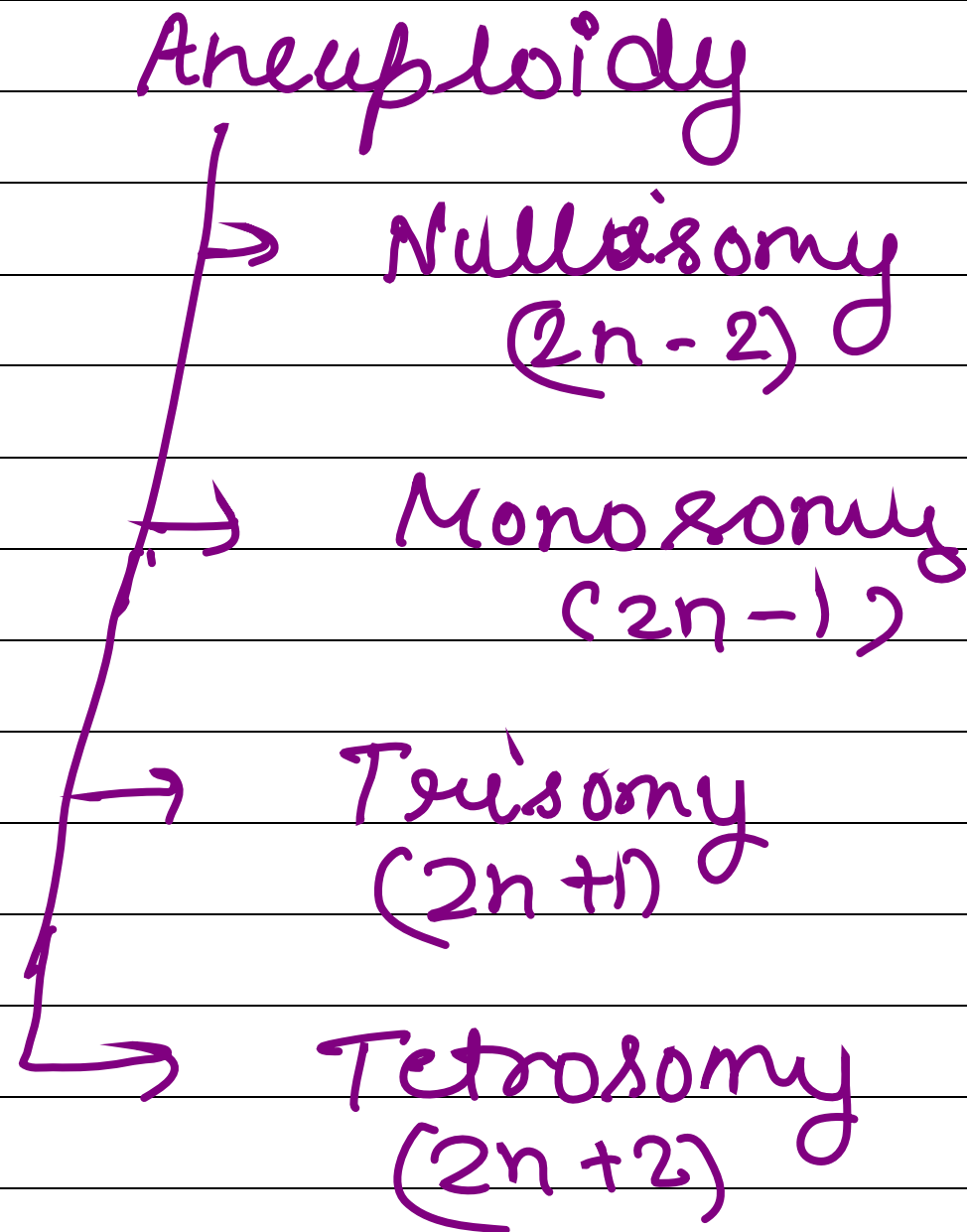
# Numerical Alterations chromosome

Euploidy      Aneuploidy

- Monoploidy  
( $x$ )

→ Diploidy  
( $2x$ )

→ Polyploidy ( $3x, 4x, 5x$  etc)





# ★ Chromosomal Abnormality -

Chromosomal abnormalities are the find the chromosome and which amount of the significant amount of the chromosome.

Chromosomal abnormalities are divided the two terms

- ① Numerical Abnormality
- ② Structural Abnormality

# Numerical Abnormality

Numerical Abnormality are divided in two parts

① Euploidy

② Aneuploidy

★ Euploidy  $\frac{!}{\cdot}$

Euploidy are

the divided in ~~three~~ parts  
 ↓  
 three

(i) Monoploidy

(ii) Diploidy

(iii) Polyploidy.

Monoploidy (x) ÷

are the found the one  
 part of the chromosome

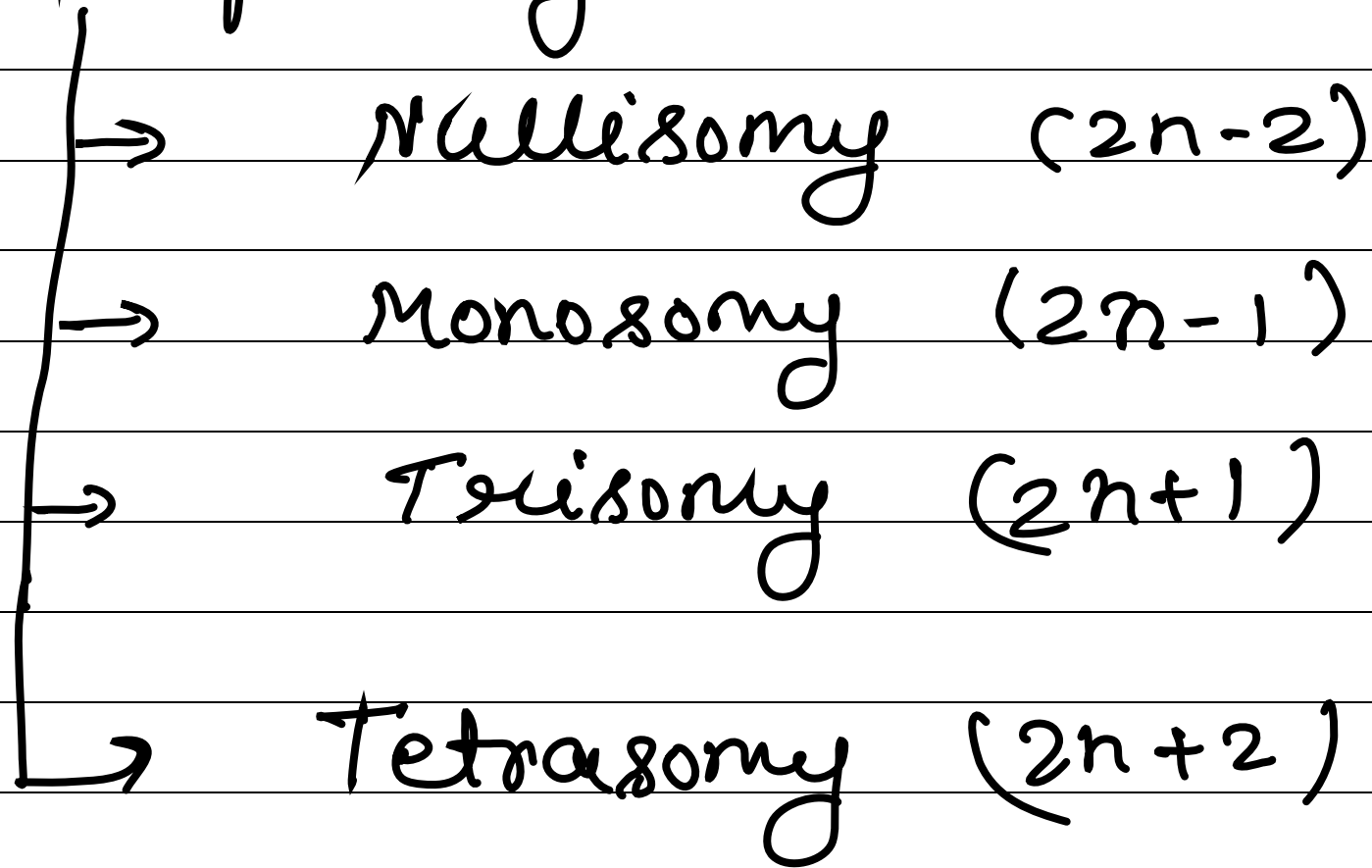
Diploidy  $\div (2x) -$

Diploidy are the found of  
of one set of chromosome

Polyploidy  $\div (3x, 4x, 5x)$

Polyploidy are the found  
of the many set of  
chromosome  
(  $3x, 4x, 5x, 6x \dots$   
etc )

## Aneuploidy -



\* Nullisomy ÷ ( $2n+2$ )

Nullisomy are ~~the~~ ~~not~~ found  
 in ~~the~~ ~~set~~ of  
 chromosome

Monosomy ( $2n-1$ )

Monosomy are not found  
 in one set of  
 chromosome.

Trisomy - ( $2n+1$ )

Trisomy are the found in extra sets of chromosome

Tetrasomy ( $2n+2$ )

Tetrasomy are the found in two sets of extra chromosome.

## Section - A

Ans = 1

Mendal was a citizen. Mendal started his work on mice. But he was approached by local people. So Mendal decided to work on plants.



Ans = 2

Initiation genetic code

① UAA

② UAG

③ UGA

Ans = 3

# Gene Bank ÷

are the Gene Bank create in  
 sequence of Nucleotides  
 DNA, RNA and protein.  
 Gene Bank are starting  
 in 1992.  
 Gene bank are located  
 in Molecular biological  
 laboratory. are create  
 in National Genetics  
 Institute (NIG).

Ans = 4

PCR

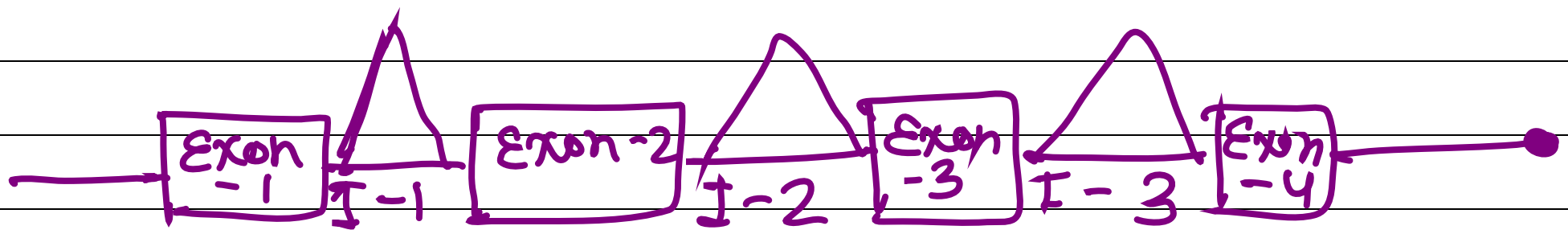
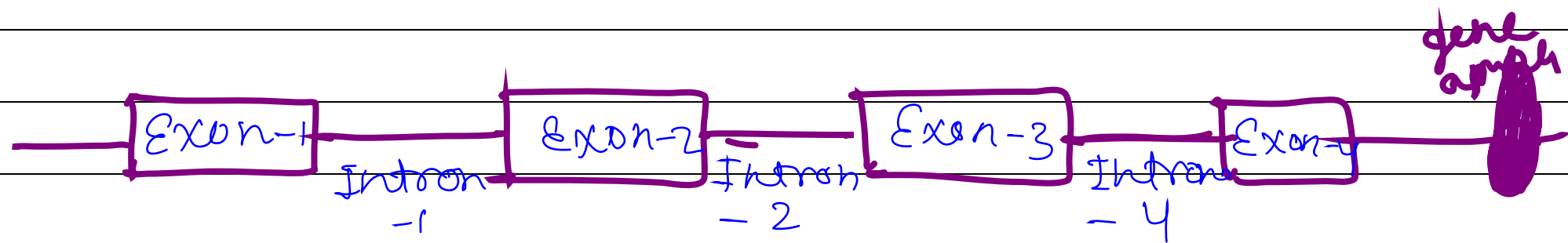
⇒ Polymer, chain, Reaction.

Ans = 5

Split Gene ÷

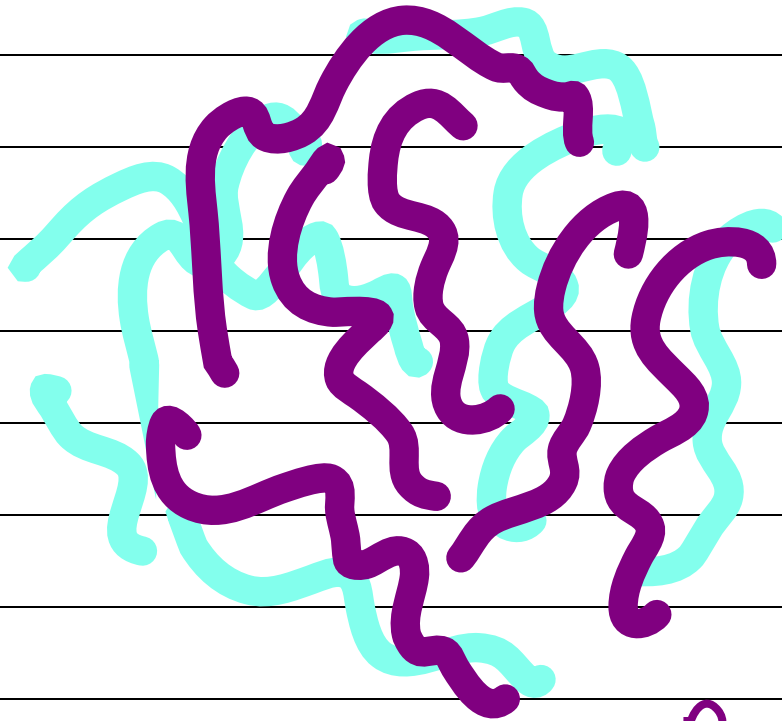
The sequences

of the short inhibition  
 ( Exon ) and Long  
 Non inhibition ( Intron )  
 that intervention are  
Exon .





Transcription



Protein

## Section - B

Ans = 6

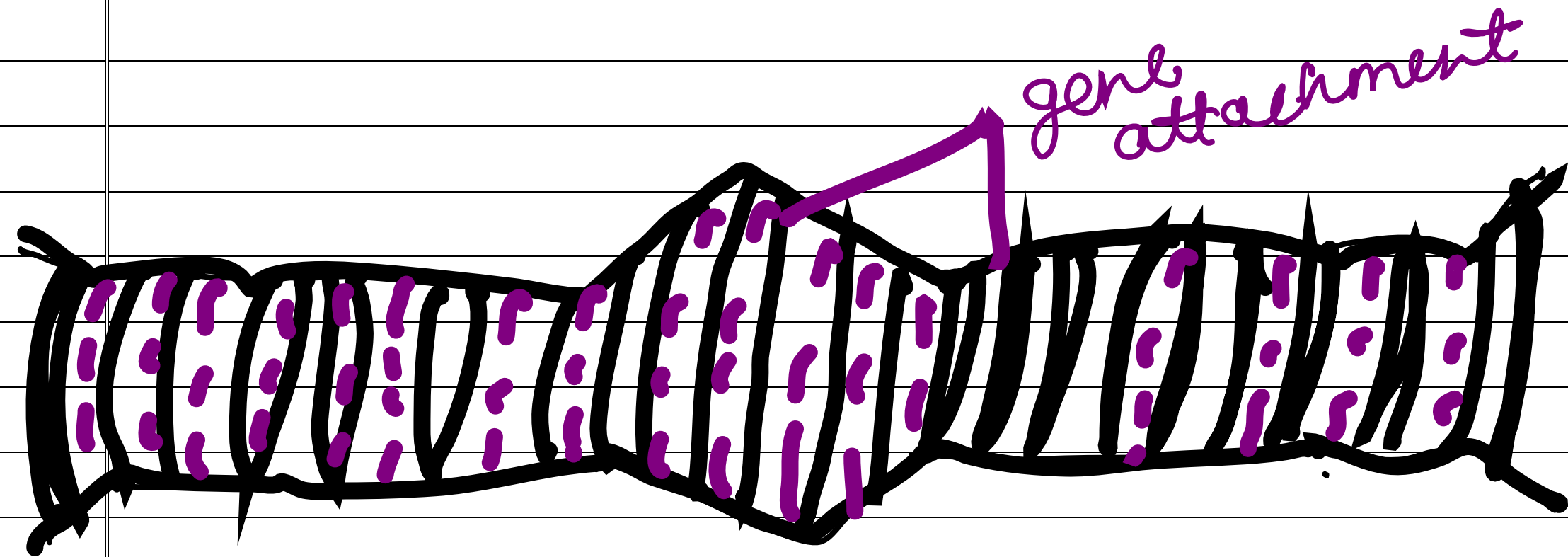
\* Polytene chromosome ÷

polytene chromosome are  
the sequences of  
DNA. They found in  
thousands of DNA.

- polytene chromosome are the value of high label of the value of polytene chromosome.
- polytene chromosome are discovered in E. G Bibiline 1881.
- the polytene chromosome are the example of Drosophila

- polytene chromosome are mainly seen in the salivary gland.
- polytene chromosome are the Giant form of the Chromosome.
- polytene chromosome are the mostly found in Giant, Lampbrush chromosome.



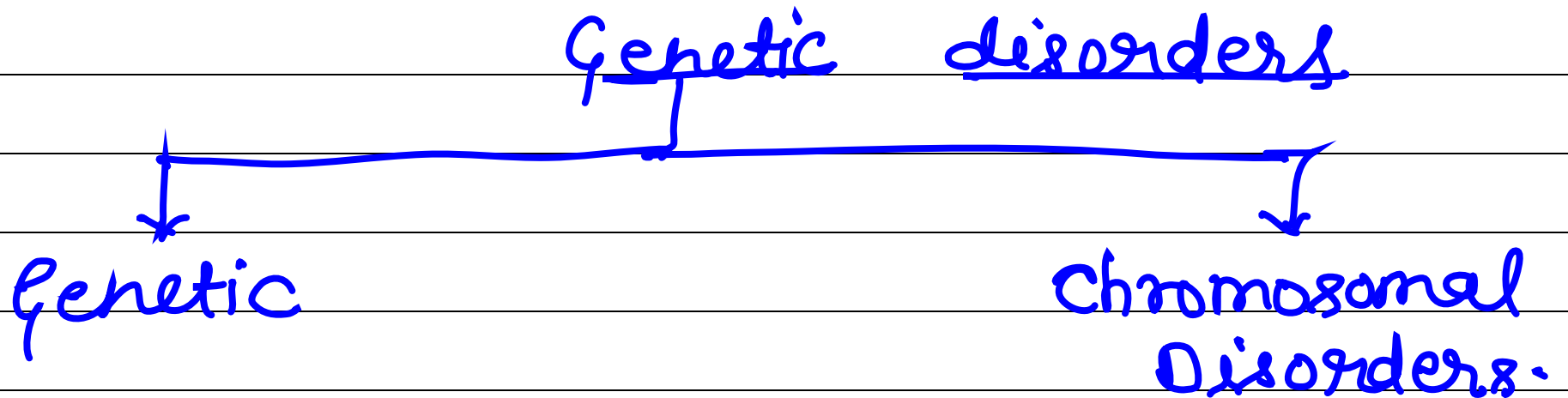


A part of polytene chromosome

Ans = 8

In-born disorders :-

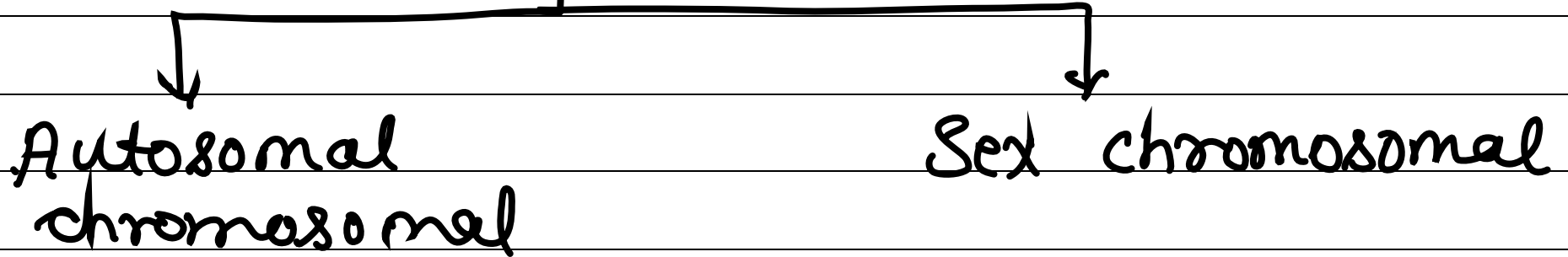
In-born disorders are also known as genetic disorders.



## Chromosomal classification :-

Group	point	Character <del>Chromosome</del>	♀	♂
A	3	M		
B	2	S		
C	7	SM	8	7-5
D	3	A		
E	3	M S		
F	2	SM		
G	2	A		2-5
	<u>22</u>		<u>23</u>	<u>23</u>

## Chromosomal disorders



★ Down Syndrome  $\div$   $44 + xxy$

- Cut the upper lip.
- Infertile.
- Mental retarded
- reproduction Normal

## Edward Syndrome ÷

- Mentally Retarded.
- Infertile.
- Short life span.
- Less than one chromosome.

• Sex Chromosomal disorders

## ★ Klinefelter's Syndrome $\div$

$44 + XXY, XXXY$

- They are found in extra chromosome.
- Male are found in female chromosome
- Male are mature in female characters.

- They are infertile  
Male Super Female.

## • Super Male :-

- They are criminal base  
mind -
- They are aggressive for  
Normal Man.
- They are Tall stature.

## Super Female ÷

- Tall status.
- Reproduction Normal.
- Criminal based mind.
- They are aggressive for Normal people



