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2018-

भाग-2

M.Sc. Internal

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

Ch. Charan Singh University, Meerut

निम्नलिखित विवरण परीक्षार्थी द्वारा स्वयं भरा जाए (To be filled by the Examinee)

परीक्षा का नाम..... वर्ष 20..... भाग/सेमेस्टर.....
(Name of Exam) (Year 20.....) (Part / Semester)

विषय..... प्रश्न-पत्र/पाठ्यक्रम..... पेपर कोड नं.....
(Subject) (Paper /Course) (Paper Code No.)

परीक्षा का दिन..... दिनांक.....
(Day of Examination) (Date)

प्राप्तांक एवं पूर्णांक परीक्षकों द्वारा भरे जायें

पूर्णांक.....
(Max. Marks)

प्रश्नों की क्रम संख्या	a/I	b/II	c/III	d/IV	e/V	f/VI	g/VII	h/VIII	i/IX	j/X	योग
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

प्राप्तांक

(शब्दों में)

अंकों में

2018-
चौधरी चरण सिंह विश्वविद्यालय, मेरठभाग-3
आवश्यक विवरणों को पूरा भाग देंगे

R

Date Stamp to be affixed here

मार्गदर्शक

(परीक्षार्थी द्वारा भरा जाए)

परीक्षा का नाम..... भाग/सेमेस्टर.....

विषय.....

प्रश्न पत्र..... दिनांक.....

परीक्षार्थी का अनुक्रमांक (Roll Number)

उत्तर-पुस्तिका क्रमांक

M	A	0	0	0	0	0	0	0	0	0	0	0	0	0
B	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C	2	2	2	2	2	2	2	2	2	2	2	2	2	2
D	3	3	3	3	3	3	3	3	3	3	3	3	3	3
E	4	4	4	4	4	4	4	4	4	4	4	4	4	4
F	5	5	5	5	5	5	5	5	5	5	5	5	5	5
G	6	6	6	6	6	6	6	6	6	6	6	6	6	6
H	7	7	7	7	7	7	7	7	7	7	7	7	7	7
I	8	8	8	8	8	8	8	8	8	8	8	8	8	8
J	9	9	9	9	9	9	9	9	9	9	9	9	9	9
K														
L														
P														
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U														
V														
W														

(परीक्षार्थी की श्रेणी)

संस्थागत

व्यक्तिगत

बैंक पेपर

अंक सुधार

भूतपूर्व

एकल विषय

KM-I-01-

कालेज कोड

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

नामांकन संख्या (Enrollment Number)

पेपर कोड

M														
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

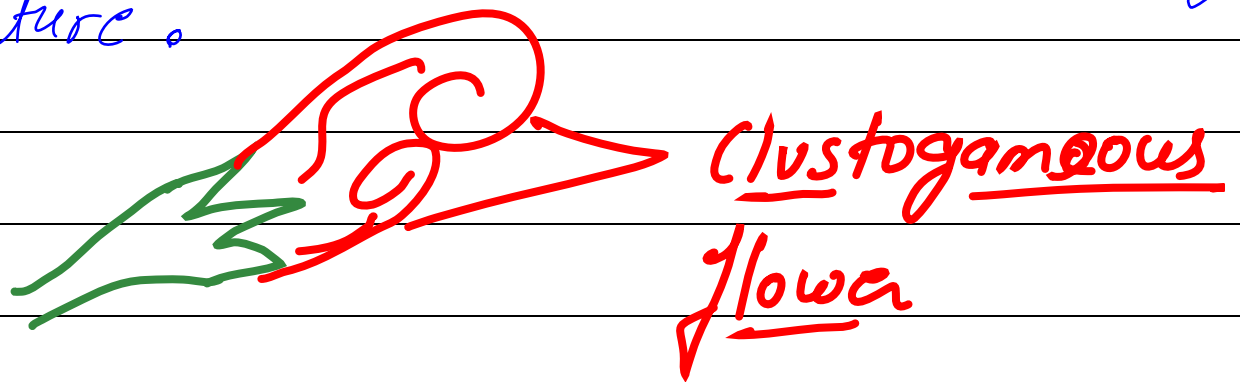
परीक्षार्थी का पूरा नाम

कक्ष निरीक्षक का नाम

Section - A

Q-1 Mandel selected Pea plant for his experiments for the following reasons :-

(i) Pea plants (Pisum sativum) plants are clustogameous ^{flower} in nature.



(ii) Self & Cross fertilization both are possible in the P. sativum (due to the emasculation)

★ Emasculation :- Remove the anther part²

& after self & Cross fertilization both are possible in the Pea plants.

So, Mendel choose Pea plant for his experiment.

A3-2 Initiation Codone :-


Two are the following codone which known as Initiation Codon :-

(I) AUG
(II) GUG

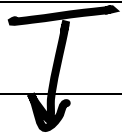
→ AUG :- In 90% cases AUG is the initiation codone & it's code Methionine
AUG code Methionine (Amino acid)

→ GUG :- In 10% cases GUG is also a initiation codone GUG also code Methionine (When it's present in first position in the sequence of mRNA)

• And When it's present between the chain then it's code Alanine.



 AUG GCC ACC GCG CGC UAA



initiation codon. which code the Methio-
-nine. (In 90% cases)

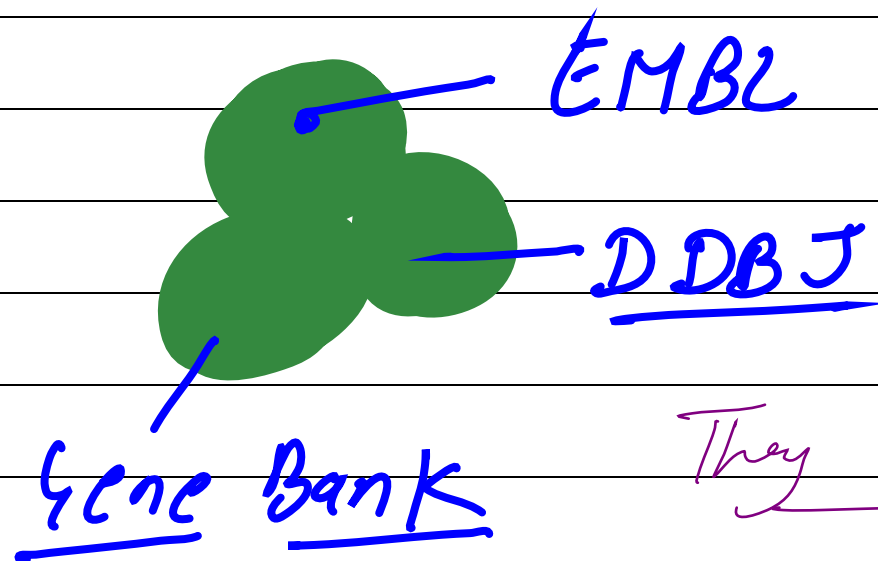
Ag-3 Gene bank

Started year :- 1992 october

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• Gene bank is a bank in which many type of Gene preserved for researches

Studying purpose & other works which related to study.

Gene bank consist of many type of DNA, RNA & other heridity material.



They both are members

DDBJ, EMBL & Gene bank both work

for hereditary material preservation.

◦ Whenever many type of new gene is found then they all are searched for knowledge for in the above.

Ans-4

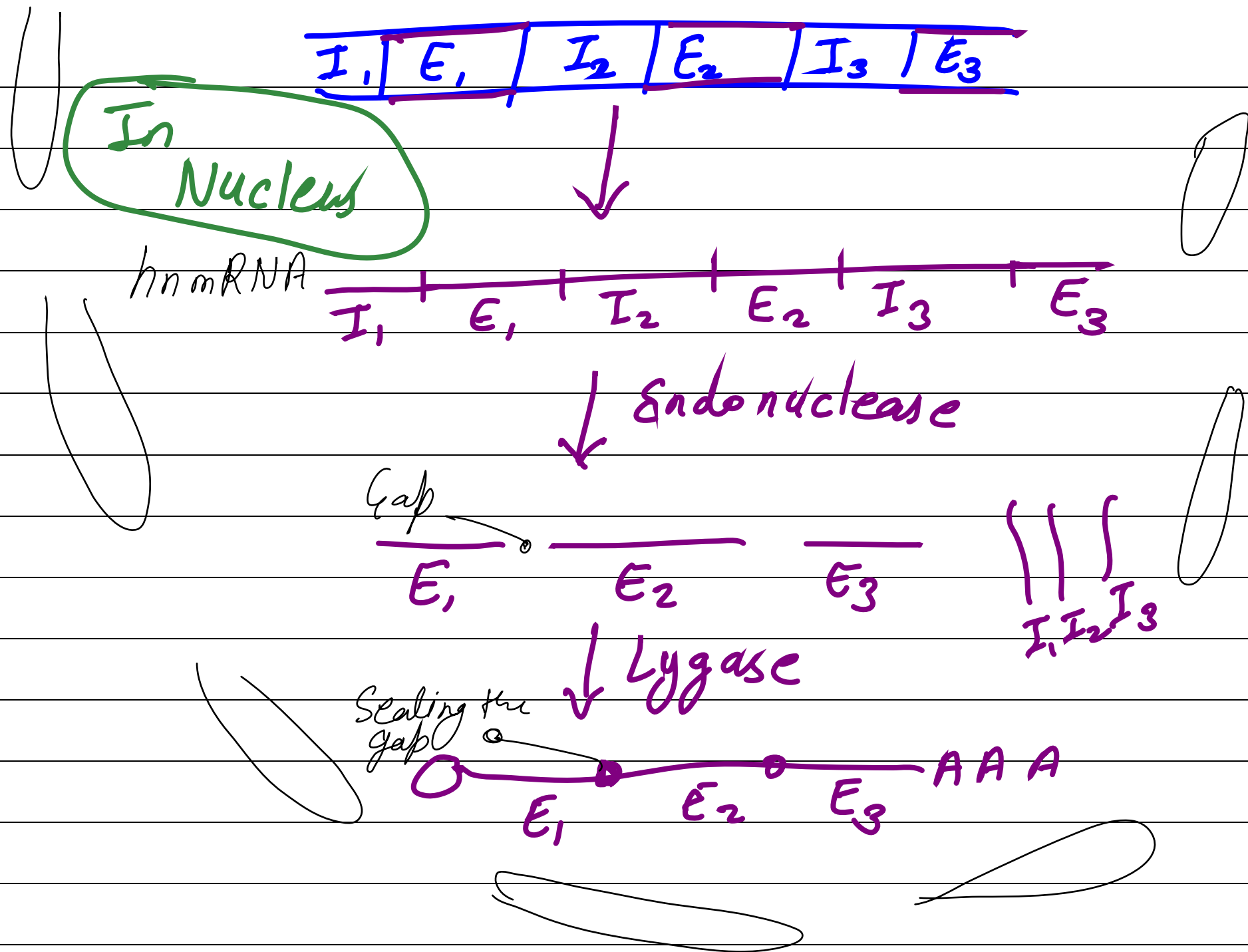
PCR :- Polymerase Chain
Reaction

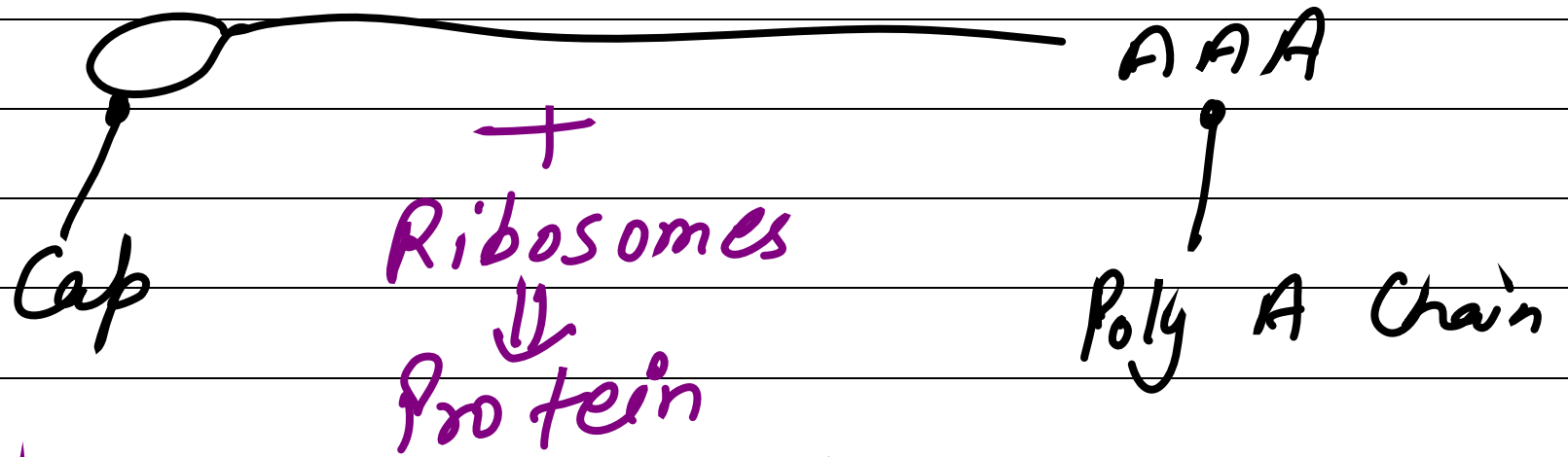
Use :- It's use for makes several
copy of DNA.

Discovered by :- Karl Mullis.

Q-5 Split Gene

Split gene is a gene which contain
introns, exons or non-continuous sequences of
Nitrogenous bases.





It's known as Split Gene.

- In this they are discontinuous.
- They are coding sequences.
- They are helpful for protein synthesis.

Sec - C

Ab-9 Mendelian Principles of Genetics

Summary :-

• Mendelian Principles

① Law of Dominance

② Law of Segregation

③ Law of Independent Assortment

~~—~~ Deviation of Mendel's Law :-

Mendelian Principles :-

Given by :- H.G. Varise, Karl Cornis ,

MacLeod

- Ago many years Mendel searched the genetics law but he not given his principles .
- His principles giving after several year later by H.G. Varise, Karl Cornis & MacLeod .

→ Mendelian known as the "father
of Genetics".

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→ Laws :-

(1) First Law of Mendel -
Law of Dominance :-

If we cross between pure Homozygous charac
- ter then only one type of characte
represent. Which characte represent it's

Known as Dominant character &

Which character is not appear it's known

as Recessive character.

$Rr \times Rr$

Gametes \rightarrow (R) (r) (R) (r)

F₁ gen \rightarrow

	R	r
R	RR	Rr
r	Rr	rr

o Genotypic ratio :- 1 : 2 : 1

o Phenotypic ratio :- 3 : 1

In these one represent white which is recessive & other represent Red (RR, Rr) which are dominant.

(2) Second Law :-

Law of Segregation or Purity of Gamete Law :-

According to this Law every character of one is segregate to other in these gametes purity shown. Which char. is pressed in F₁ gen it seen in F₂ gen.

→ According this Law the gametes

Purity check that gametes how much pure for their fertilization

P \rightarrow RR X rr

F₁ \rightarrow

	R	r
R	RR	Rr
r	Rr	rr

RR \rightarrow Red

rr \rightarrow White

Self crossing :-

RR X rr

F₂ \rightarrow

	r	r
R	Rr	Rr
R	Rr	Rr

If we see than all [Rr] is present.

3) Third Law \rightarrow Law of Independent Assortment

According to Mendel's third law \rightarrow One character does not affect the other character.

Eg^o -

R_Y x R_y

$G \rightarrow \textcircled{R} \textcircled{M} \textcircled{R} \textcircled{M}$

$F_1 \rightarrow \quad \quad R \quad \quad M$

R	RR	RM
M	RM	MM

$\frac{RR}{\downarrow}$
Red

$\frac{RM \quad RM}{\downarrow}$
Pink

$\frac{MM}{\downarrow}$
White

Genotypic ratio :- 1 : 2 : 1

Phenotypic ratio :- 1 : 2 : 1

Both are similar.

Deviation of Mendel's Law :-

(i) Co-dominance :-

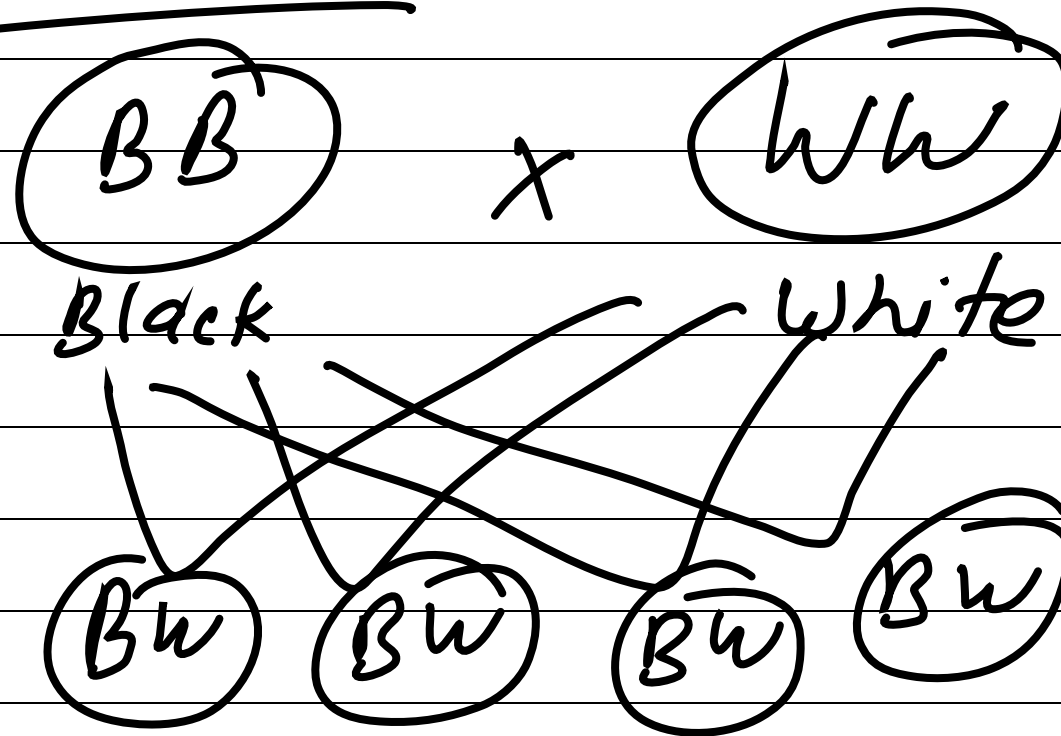
IN these - when ^{we} crossed between two characters that both character seen

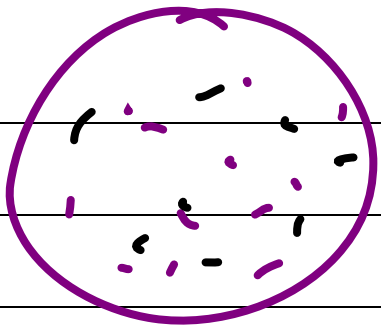
Continuously.

Eg^o - (i) Rhon hair

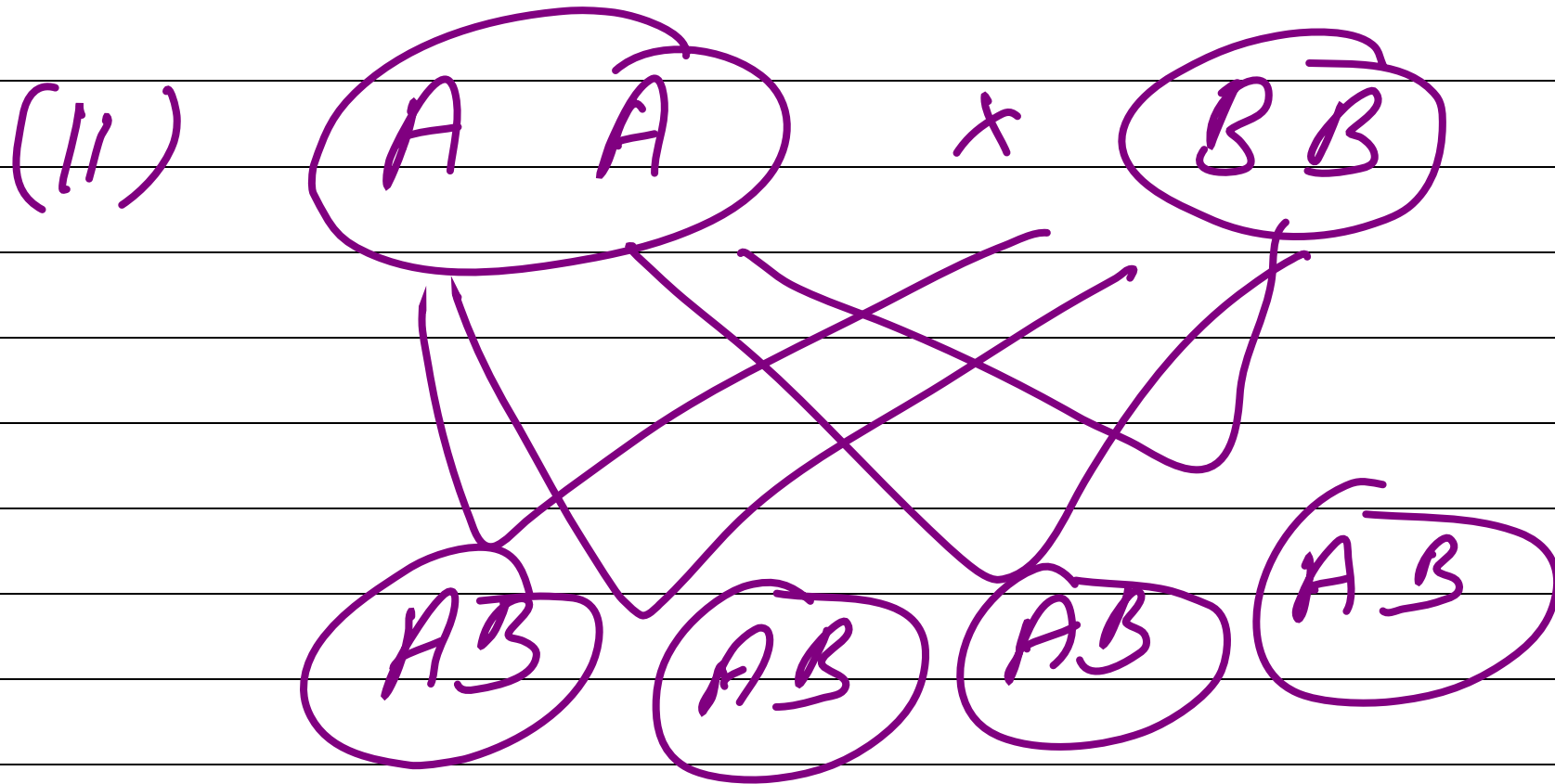
(ii) Blood group

Rhon hair





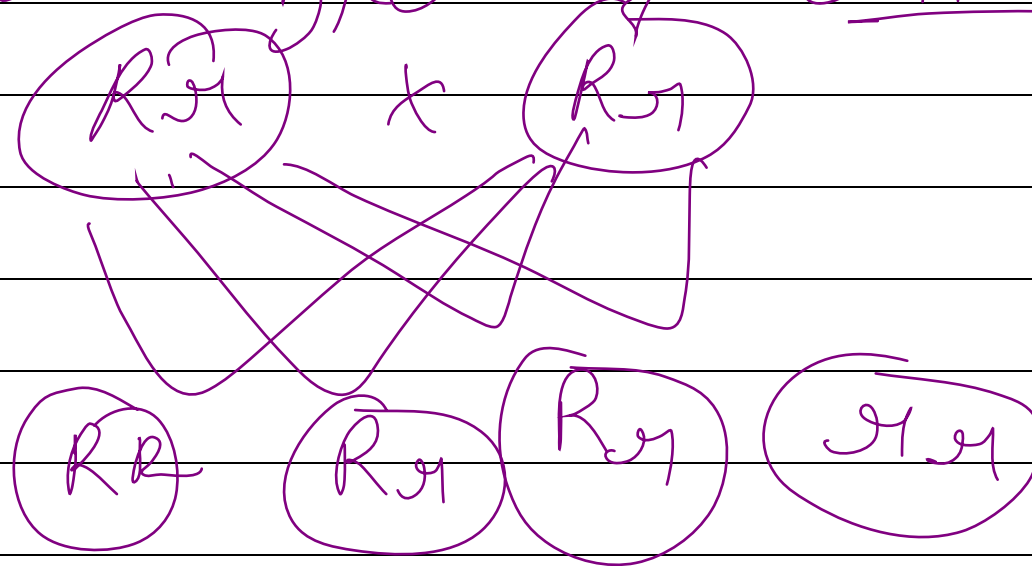
Both Black or brown / White seen.



Both AB Blood group seen.

Incomplete dominance :-

When we cross between two char than they are partially seen in generation, & a new type of char seen.



Red

pink

white

1 2 1

Ag-11 Chromosomal disorders

Chro. disorder

Autosome linked
disorder

Sex-chro
linked
disorder

1) Autosomal linked disorder :-

Which disorder is related with 22

first pairs it's known as autosomal
disorders.

(1) Down syndrome :-

Reason → Trisomy in 21 Group

Condition → $(22 + 1)$ Condition
shown

→ They are sterile.

→ Mongolian face.

- Mantley retired
- Inisor come out the upper lip.
- Upper lip is bivalved.



(2) Edward syndrome :-

Condition \circ - (2n+1) in 18th
Group

27

\rightarrow They are sterile.

\rightarrow Mantley retired.

\rightarrow Short leaved.

(3) Pata 4 Syndrome \circ -

Mono somy in 13 group.
Condition $(2n-1)$.

- They are mentley retired.
- Short leaved.
- They are sterile.

⑦ Cri-du Chat syndrome :-

→ In these syndrome baby
cry like cat.

Meow voice.

→ they are short lived.

→ they are sterile.

Sex-linked disorders-

Which disorder is related with Sex-
Chrom, it known as Sex-linked
disorder (X or Y linked)

① Super female :- $(22 + XXX)$

Poly X condition is seen.

→ Seen in female.

→ They are not mentally retarded.

→ They give birth their baby.

② Super male :-

$(22 + XYY)$

→ Poly y condition is seen in
this condition.

→ Known as criminal syndrome
because mind not well develop
so men work like criminals.

→ Huge body structure.

→ Height 6-7 feet or more
than these.

→ Strong muscular system.

③ Kline filter syndrome:-

Condition - $(22+x-)$

Seen in male.

→ In male secondary female sexual

character is developed.

→ Breast, Voice etc...

