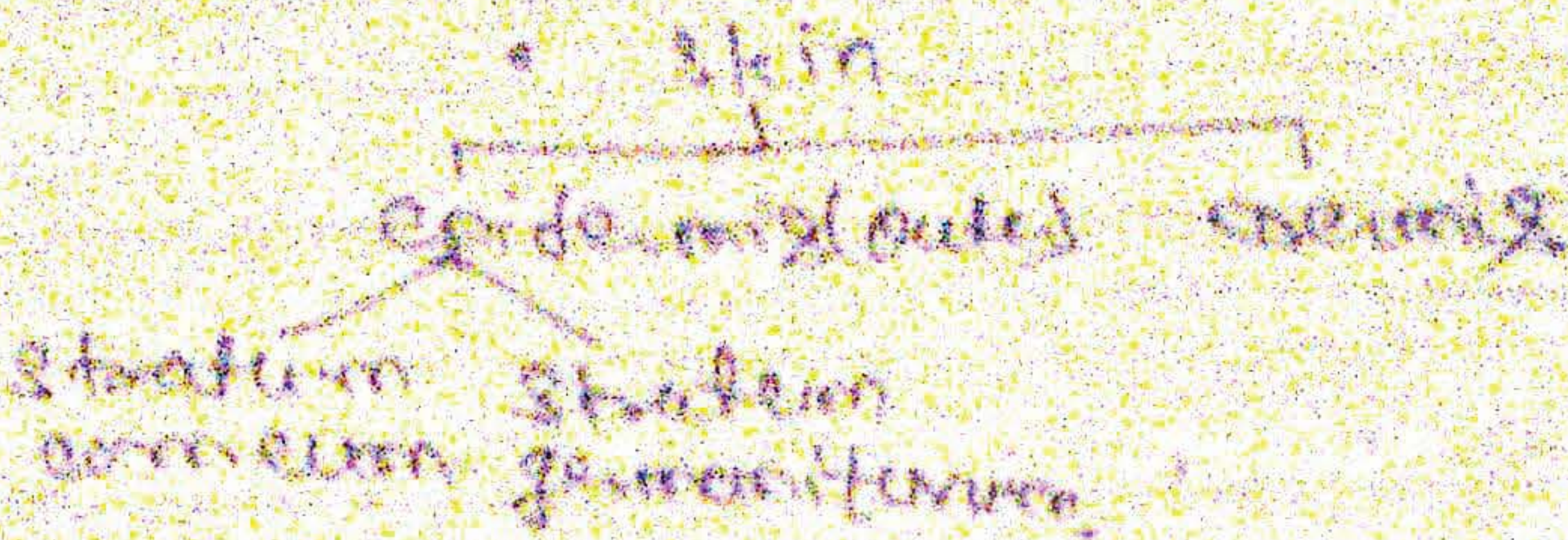


② Human body: -

- (i) Skin (Integumentary system)
- (ii) Skeleton system
- (iii) Digestive system
- (iv) Respiratory system
- (v) Circulatory system
- (vi) Excretory system
- (vii) Locomotion (muscle)
- (viii) Nervous system
- (ix) Endocrine system (like: hormones)
- (x) Reproduction system
- (xi) Embryo system

① Skin - Skin is the largest organ of the body. It accounts for 6-7% of the body weight.



• Stratum corneum (outer) - the thickening of the skin is related to stratum corneum.

• This stratum corneum is absent in those animal, which leave in water.
 • It is capable of division by mitosis.

• Stratum granulosum

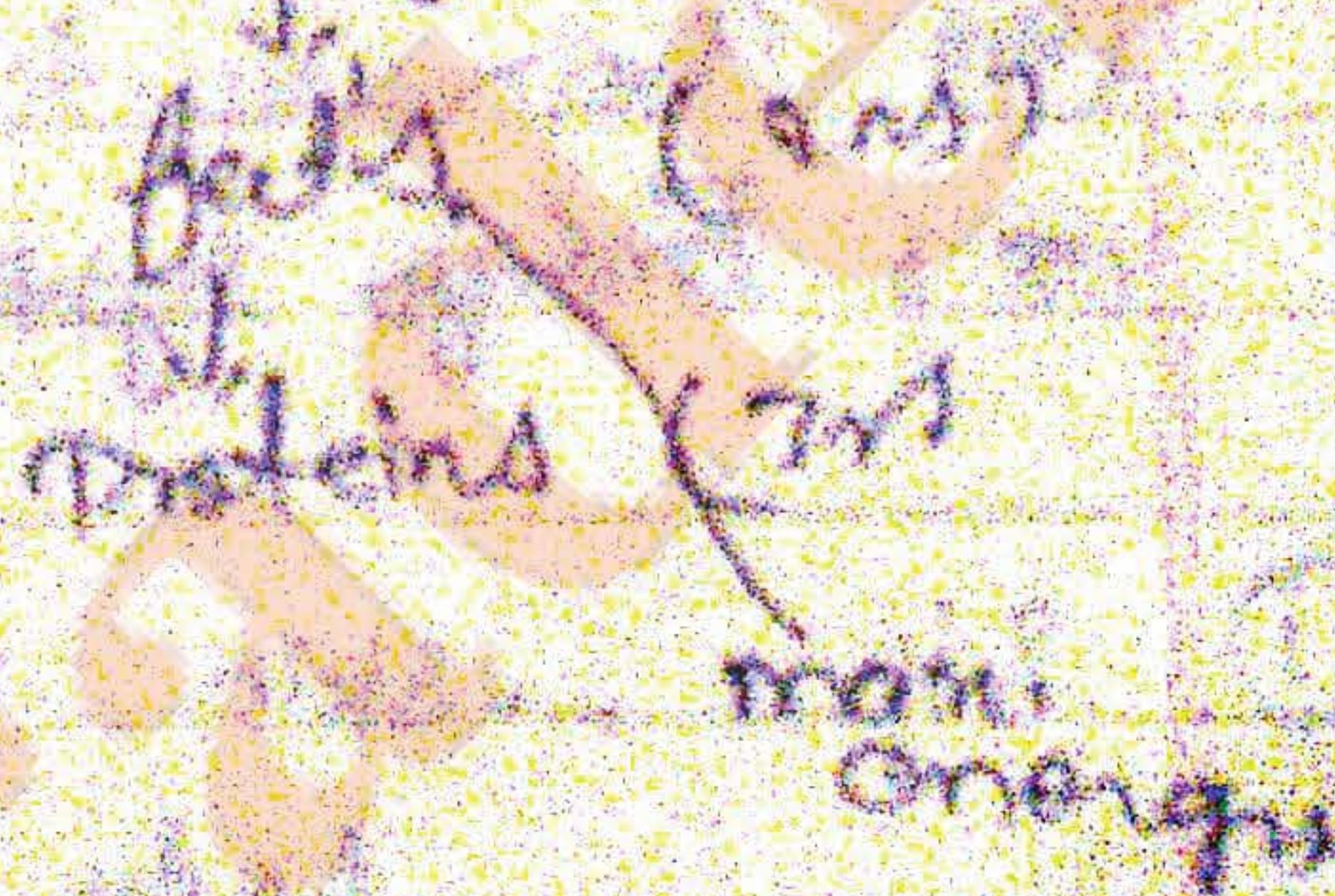
• It is the inner most layer of skin.

• It is the layer which is capable of division.

• Below the dermis, there is present adipose tissue.

↳ covered with fat.

• Body utilizes carbhydrate (4kcal)



- Energy sources:
 - 1) Proteins
 - 2) Carbs
 - 3) Fat

• Below the skin there is present fatty layer of adipose tissue.

- Balance diet has max. am. of carbohydrate up to 62%.
- Carbohydrate stored in ~~liver~~ liver and muscles of the body.
- muscles are only reservoirs in the body where oxygen is stored.
- Doctor always recommends "Proteinous diet" b'co proteins are not stored in the body. so it needs regular ~~cont~~ intake in diet.
- In our body ~~and~~ carbohydrate and fats are stored in the body.
- Fat stored in adipose tissue
Carbohydrate " " " " liver and muscles
Protein is not stored in liver
- Adipose tissue are not present in the body.
- Antioxidants remove free radicals in the body.

• Balance diet has more vitamins,
Carbohydrate and 65%

• Carbohydrate present in body have only
small amount of other substances

• Carbohydrate are only stored in
the body in the form of glycogen in liver

• Carbohydrate always necessary for
the body. Carbohydrate are not stored
in the body in a regular
way in liver

• In our body we store carbohydrate and fat's
in the liver

• Fat is stored in adipose tissue
carbohydrate is stored in liver and muscle
protein is stored in liver

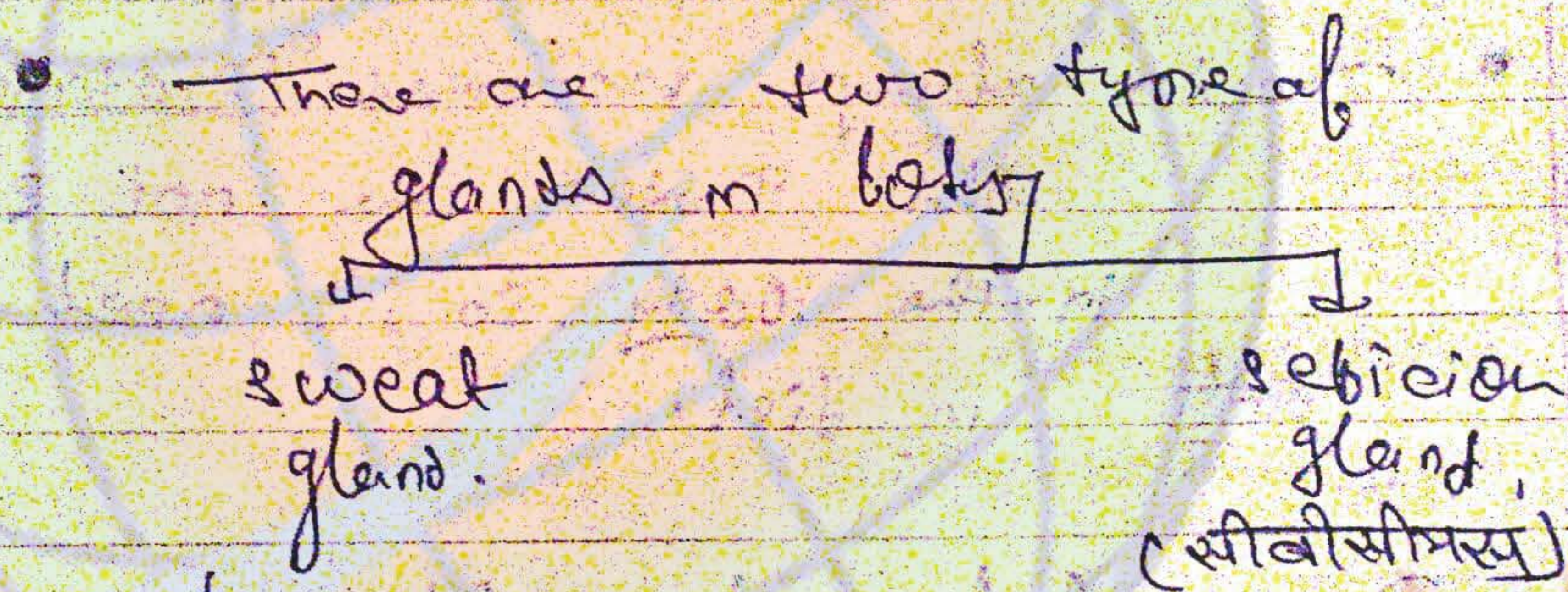
• Adipose tissue is not present in the
body

• Protein is stored in liver and muscle
in the form of albumin

More one nutrient
 small " - not in balanced diet.
 under "

8-2-2015

- Epidermis has pigment "melanin"
- There is a pigment called melanin that is present in the epidermis. This pigment is formed in amino acid called "tyrosin". This pigment protect from ultraviolet rays. more pigment darker is the colour.



- many glands are modified sweat glands.

- Hair and nails are they are the derivatives of the skin. They contain a protein called "keratin".

- "Arrector pili muscle" are related to form a blanket of hair on the skin. This is called goose

| | |
|---|----------------------|
| <p>flask</p> <p>X - emotional chromosome</p> <p>Y - aggressive chromosome</p> | <p>male is donor</p> |
|---|----------------------|

(*) • Female
 • male

(*) skele

(*) skele

Arctic
 eg- skull
 rest

(*) Cranio

(*) cro

(*) mo

(*)

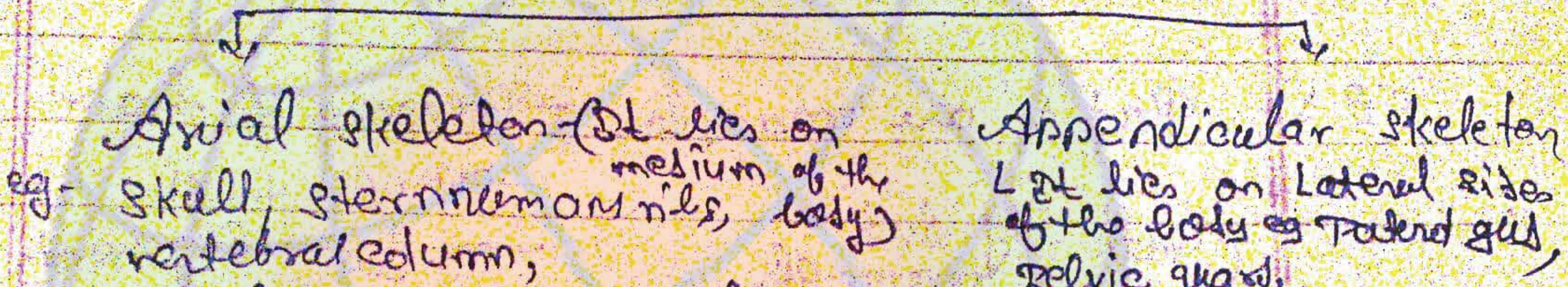
8-2-2015

Skeleton System

- (*) • Female are emotional
- male are rational

(i) skeleton - अर्थात् जिसके सहारे कुछ खड़ी हो।

(ii) skeleton



(3) Cranial Capacity - अर्थात् Brain की capacity other animal से ज्यादा मानव का है।

(4) Cro-magnon man -

- (4) modern man
 - erect posture
 - five finger (असुअ) होता
 - one uterus
 - brain cranial capacity

(5) women fertile \Rightarrow 12 - 33 years

\Rightarrow 1 egg / per month

so $33 \times 12 \approx 396 \approx 400$ egg

(total produce woman)

Note: skull is made up of 22 bones.

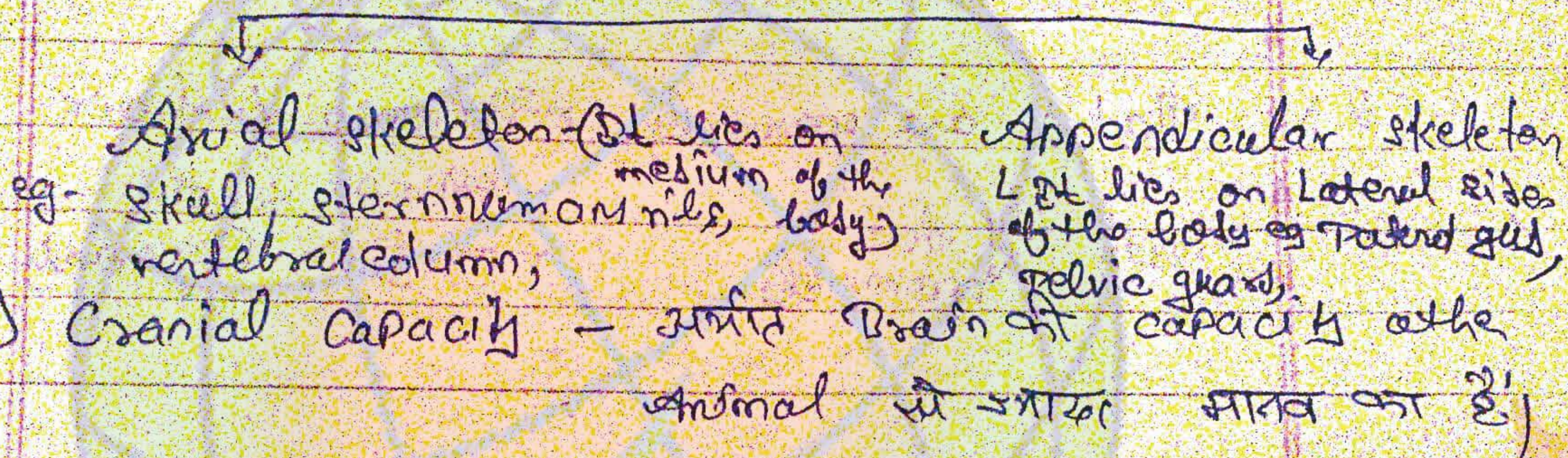
8-9-15

Skeleton System

- (*) • Females are emotional
- males are rational

(i) skeleton - अर्थात् जिसके सघीर कुछ सभी हैं।

(ii) skeleton



(3) Cranial Capacity - अर्थात् Brain की capacity other animal से ज़ाका मानव का है।

(4) Cro-magnon man -

- modern man - erect posture
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- brain cranial capacity

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\Rightarrow 1 egg / per month

So, $33 \times 12 = 400$ egg

(total produce woman)

Note: skull is made up of 22 bones

Note: boy and girl mature at the age of 8.

(6) man fertile at 12
→ 300 million sperm in one stroke

(7) Rape cases → 19, 17, 25
5 year but missing

(8) Bats are mammals - Presence of hair
- No teeth
- Malpighian tubules
Bats fly but mammals

(9) such build platypus lay egg but mammals

(10) Presence of "Diaphragm" in the mammals

↳ mammals if it has diaphragm it is

(11) Animal system: skull, sternum and ribs, vertebral column

(i) skull
20
0

(ii)

(i) skull - • The skull is made up of 29 bones, it includes 6 ear ossicles

- 6 ear ossicles - 2 malleus ✓
2 incus ✓
2 stapes ✓

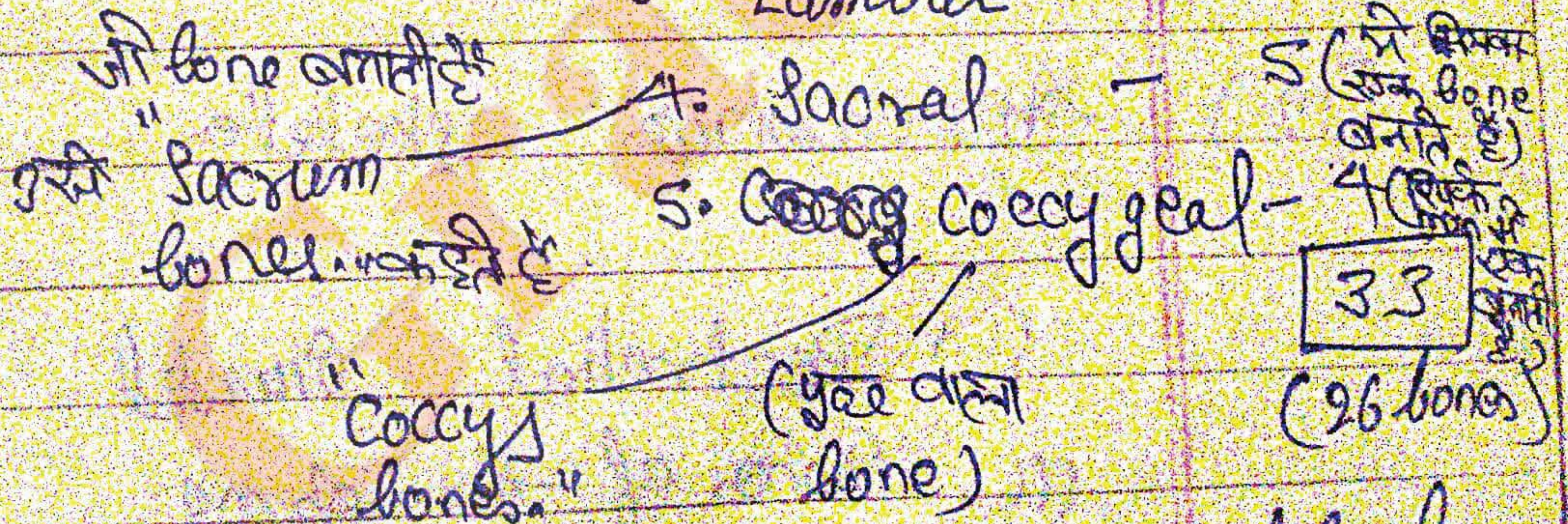
• Stapes is the smallest bones in the body.

• Skull is the hardest bone of the body.

(ii) Vertebral Column :-

• There are 33 vertebrae in the ~~body~~ ^{vertebral column}

- 5 types of vertebrae - 1. Cervical - 7
2. Thoracic - 12
3. Lumbar - 5



• There are 26 bones in the vertebral column

is a flat bone in the chest.

(11) Sternum and ribs! -

There are 12 pairs of ribs

The first seven pairs are called true ribs

8th, 9th and 10th are called

false ribs. and

11th and 12th are floating ribs.

Note! The floating ribs protect the kidneys.

- The top of the sternum is called ~~the~~ "xiphoid".

- Caesarian: - Julius Caesar was born

(12) Appendicular skeleton

(i) Pectoral Girdle

(ii) Bones of the arms

(iii) ~~Pelvic~~ Pelvic girdle

(iv) Bones of legs

(v)

(i) Pectoral girdle -

It consists of two bones - (i) clavical

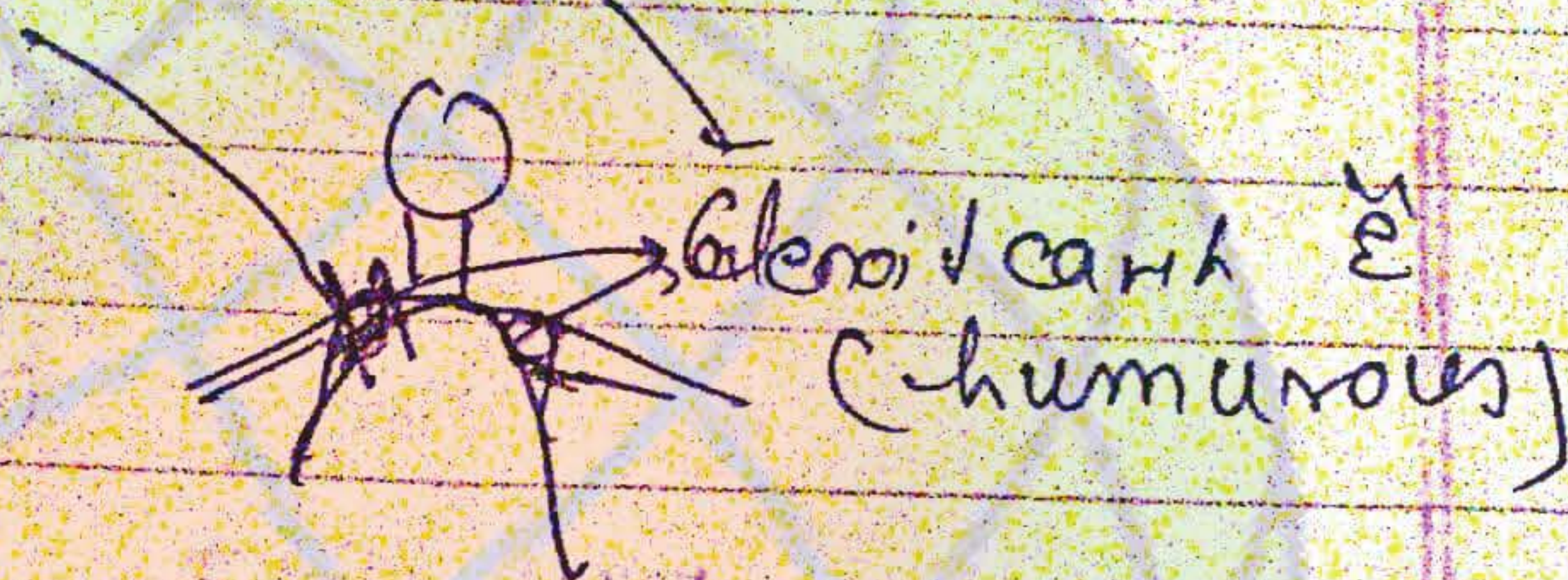
(ii) scapula
 ↳ cavity
 ↳ Glenoid



clavical bone

clavical bone

• scapula के सिद्ध



• There is Glenoid cavity in which the head of the ~~femur~~ ~~femur~~ is fitted. humerus.

(ii) Bones of the Arms :-

each arm of 30 bones -

- It consists of - (i) Humerus - (1)
- (ii) one radius - (1)
 (जो अंगुठा तक जाती है)
- (iii) one ulna - (1)
- (iv) ^{eight} carpal bones - (8)
- (v) five meta carpals - 5
- (vi) five digits - (5)
- ~~with~~ flanges - (14)

(2:313:313)

~~Part of Pelvic~~

(iii) Pelvic girdle:-

• It is made up of 2 bones
 They are called innominate bone
 (horizontal) • Each innominate bone is
 flat) made up of 3-bone

- (a) Ilium ✓
- (b) Ischium ✓
- (c) Pubis

• There is present a depression called "acetabulum" in which the head of the femur is fitted.

(iv) Bones of the legs

- (i) Femur - (1)
 - (ii) Tibia and Fibula - 2
 - (iii) 7 tarsal bones - 7
 - (iv) 5 meta tarsals - 5
 - (v) 5 digits with 14 phalanges - 14
 - (vi) One Patella - 1
-
- 30

Note! • The 206 bones in the human body.

- Ist clinical death होता है
किन्तु जब देर जाके biological death
होता है • जब अंग भी काम करना
बंद होकर जाता है,

* Health: - ✓

- (i) meditation
- (ii) दंत
- (iii) आसन
- (iv) श्म की brush करना जरूरी है।

* Regula finance (अपना पैसा) :-

→ Profession को Passion बनानी।

→

★ Digestive System

(1) Nutrition

(2) B.M.I \Rightarrow Body mass index

$$B.M.I = \frac{\text{weight in kg}}{(\text{height in meters})^2}$$

if value (18 - 23.9) then the Person is normal

✓ --- 18 \rightarrow small nutrition

24 - 29.9 \rightarrow Person is over weight

~~30~~

30 \rightarrow Person is obese and he is suffer from obesity.

Note!

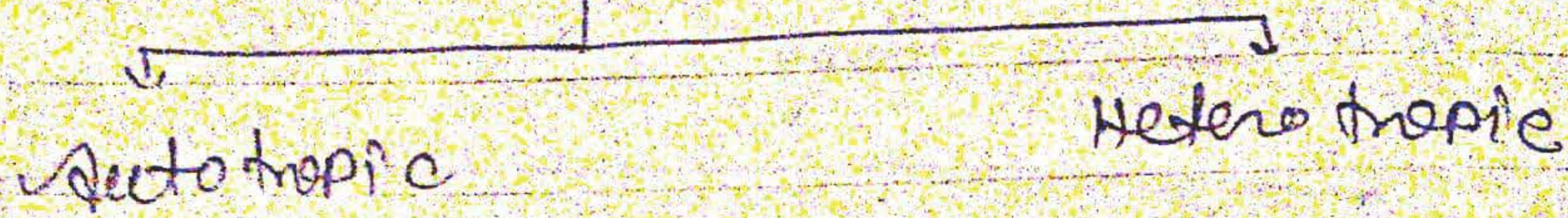
- Best - 18 to 23.9

-

| | | |
|-----------------|----------------|-------|
| | 18 to 23.9 | |
| small nutrition | Normal person. | obese |

Human is Herbivores - small intestine
 (वर्जास्य जस्य है) नरत हीन है

(11) Nutrition



(13) • Cellulose can not be digested by human being because -

(a) There is no enzyme cellulase.

(b) There is no bacteria in human elementary canal.

(14) The enzyme "lactase", decreases with age, so curd is recommended.

(15) A balanced diet contains

Carbohydrate

Fats

Proteins

Vitamins

minerals and

Roughage

• The carbohydrate content is maximum.

• main energy fat है प्रमुख है।

(6)

(7)

(8)

(6) ~~Hippocrates~~ "Hippocrates" is called father of medicine.

"Let food be your medicine"

(अगर food की दवाई बना ले तो बड़ा बिसार पड़ेगा)

सि - कम
कितना

कमना खाना है, अजब फिज होता चाहिए।

• 1 cup of tea is equal to one cup of wicky.

- After completing MBBS, doctor take hippocrate oath.

⊕ "Charaka" is called the father of Ayurveda.



(flexibility of views

(i) response to body muscles.

(ii) symptom, emotory

(iv) flexibility of the body is very important.

General science

↳ (Open book darok)



Diabetes - HADAR test

- चीनी, शर्करा, → बचापन से ही क्या खाते हैं।

- India is going to the peak of the diabetics.



Drug - directly absorb by the blood
(like alcohol) cell and directly go to the cerebellum of the brain



● स्त्रियों women, 33% reservation हो आरंभ की, 10 साल में बड़ा change होता कर आरंभ।



Food in animals (including man) is transmitted in the form of glucose.

It is transmitted in the body in the form of sucrose.

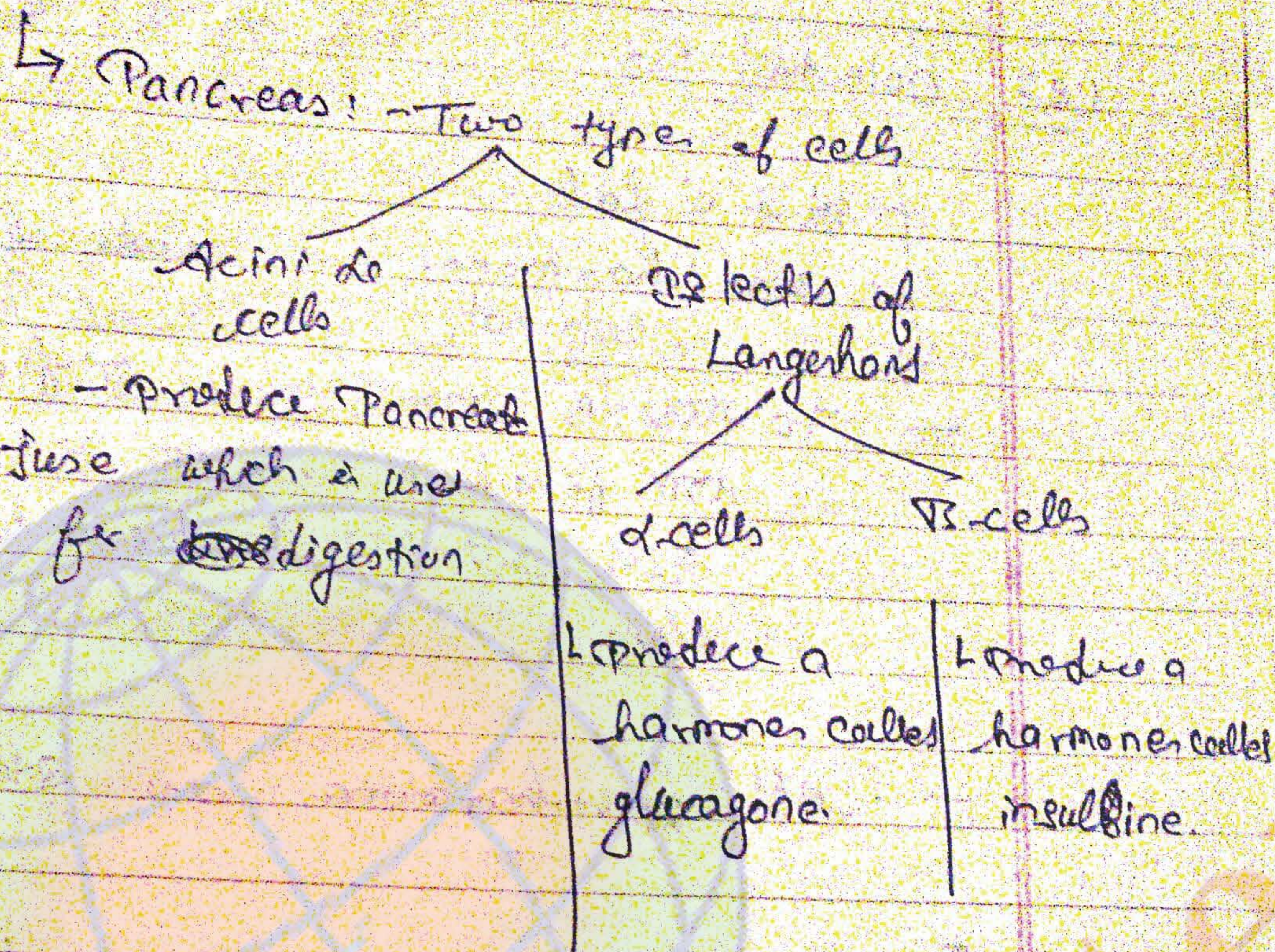
non-reducing sugar

Sucrose = glucose + fructose

this is double sugar

maltose = Glucose +

Lactose = Glucose + Galactose
Called milk sugar



~~entire glucose~~

↳ Urine test say all बिसारी of body
(Urine complete)

↳ ~~U.T.I~~ U.T.I → Urine infection से
(सुरक्षित रहना की है)
(Disinfectant)

↳ Urine is acidic

↳ Human Semen are in alkaline medium

↳ Retinopathy, Neuroarth, Nastro Pathy

Cholesterol

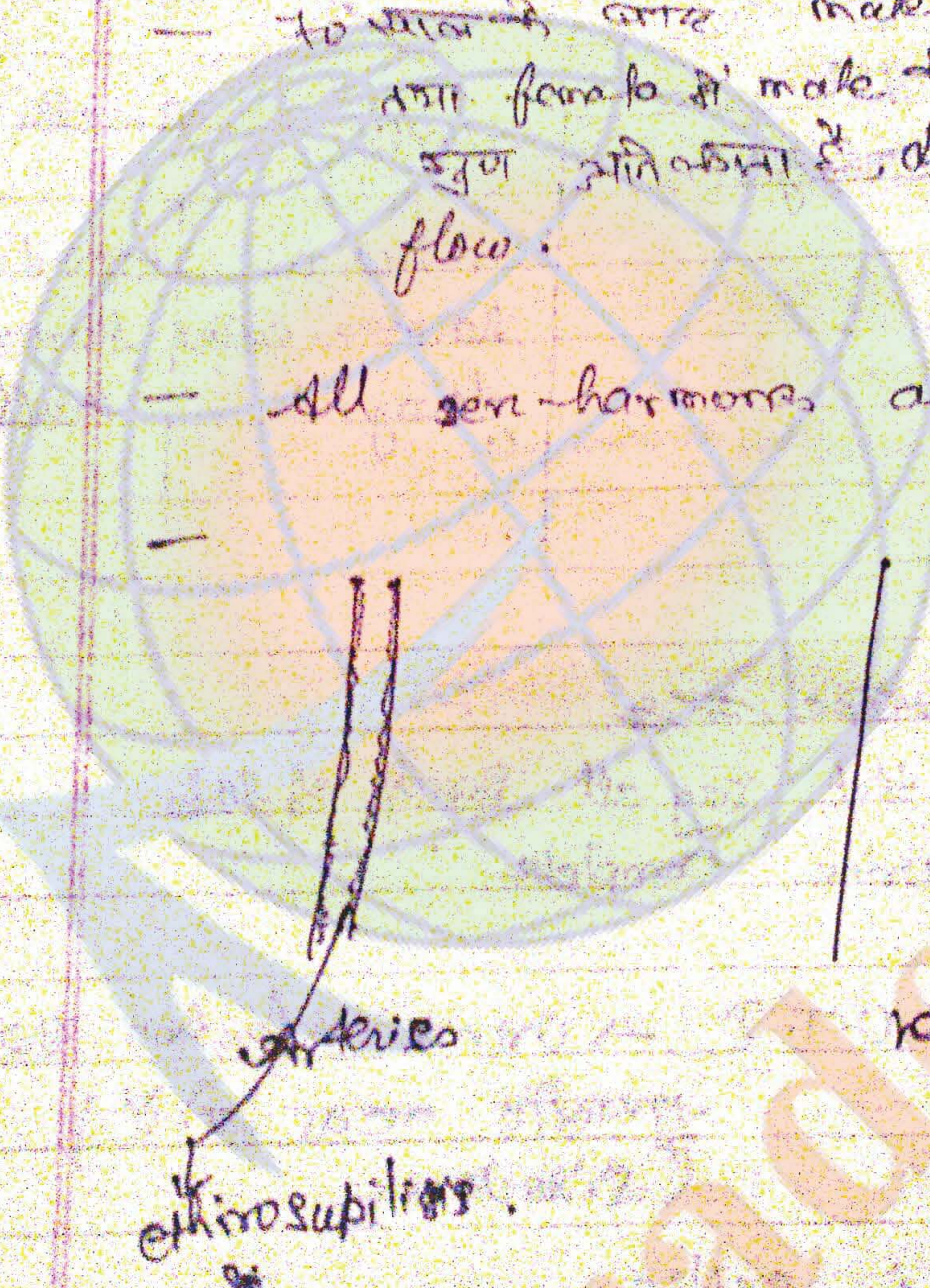
Note: → Hormones secretion is not to be controlled by the body.

(9) Cholesterol :-

→ It is a fat
→ sex hormones are made of cholesterol

→ In male it is more than in female
→ In female it is more than in male
→ due to hormonal flow.

→ All sex hormones are steroids.



arteries

endothelium

lumen

When the cholesterol gets deposited in the inner wall of arteries it is called "atherosclerosis".

(10) Val

आदि के
Arms के

Askskin

Male: Can

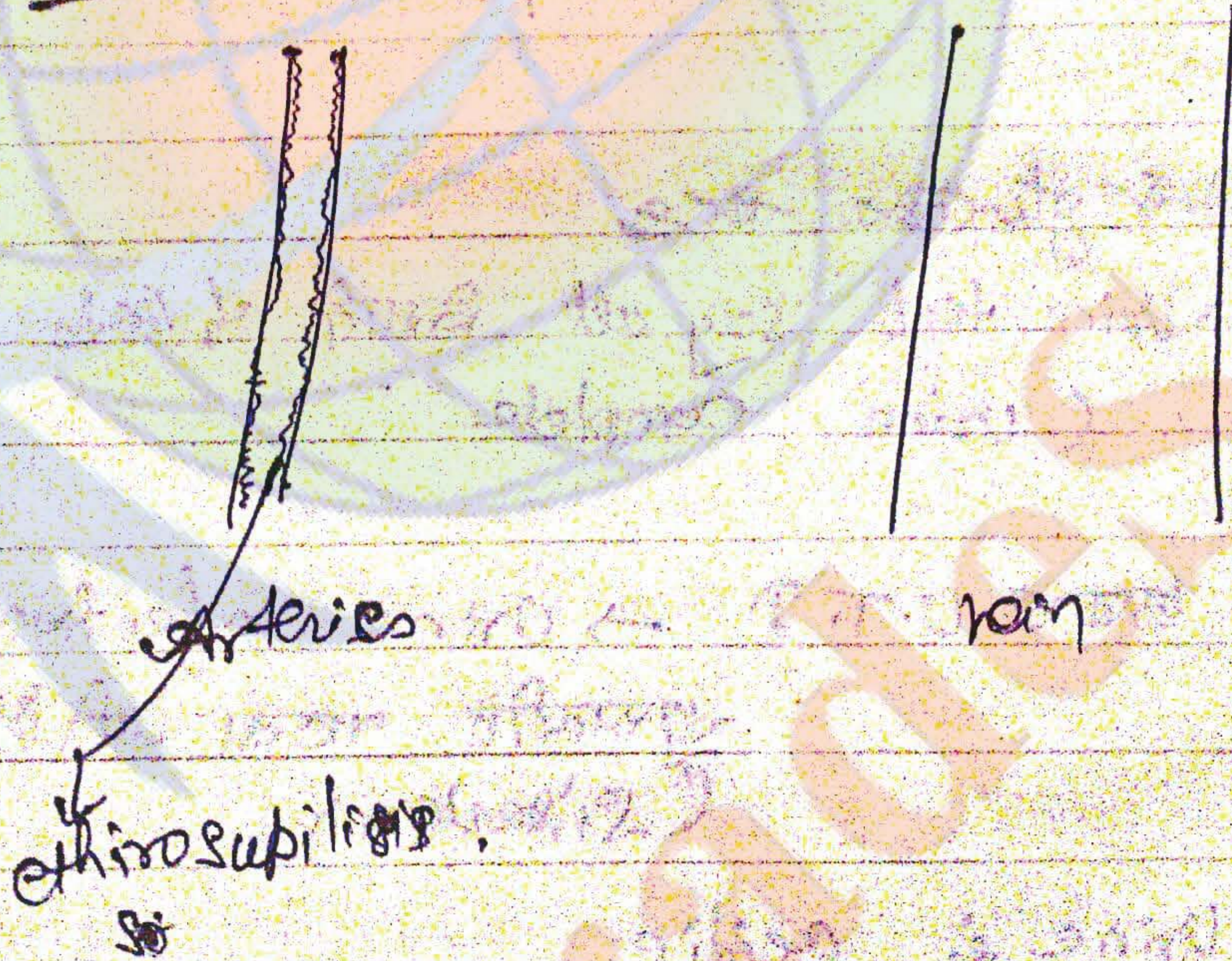
Oilerin

Note: Hormones secretion is not to be controlled by the body.

(9) Cholesterol : -

- It is a fat
- sex hormones are made of cholesterol
- In males and females sex hormones are made of cholesterol. In males it is androgen and in females it is estrogen. due to hormonal flow.

- All sex hormones are steroids.



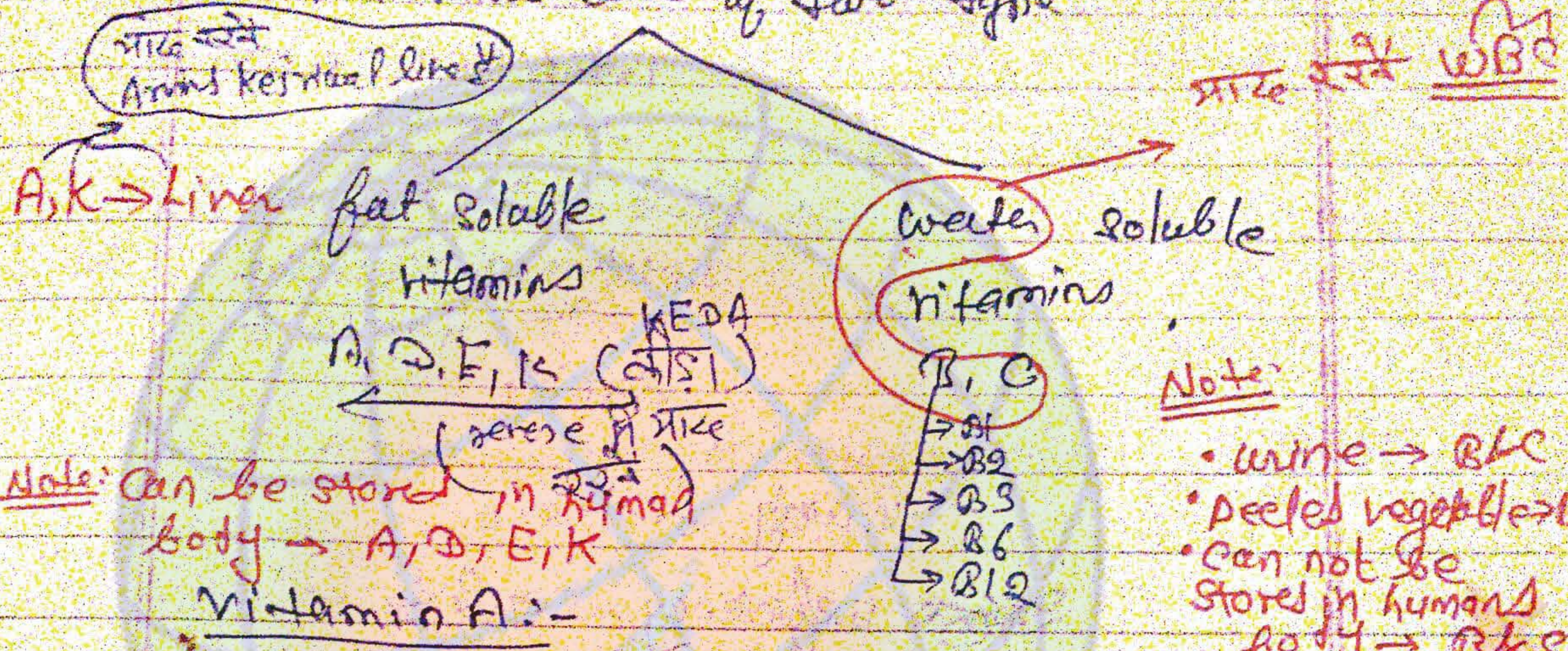
When the cholesterol gets deposited in the inner wall of artery it is called 'atherosclerosis'.

Scanned with CamScanner

(10) Vitamins :-

↳ "Green" vegetable is very imp.

• vitamins are of two type



Vitamin A :-

- chemical name - Retinol
- Night blindness - deficiency cause
- deficiency cause - ~~Xero~~ Xero Phthemia
 (आँसू का द्रव ही जाता)

"use 'preser' for eye"
so that आँसू ना सूखे

• मात्रिका खाना
 खीर
 ↳ "sorghum is very imp for body"

↳ "apple a day keeps the day away"

Vitamin D :-

- Contains chemical - Calciferol
- It is formed from Colostrum in the

Presence of ~~the~~ Sun-light
Deficiency - Disease of the bones

Vitamin E) -

contain - tocopherol
(anti-sterline vitam)
ant-sterility

→ जिन्हे बच्चे पैदा नहीं होत
दोस्तर anti-sterline
प्रतीत vitamin E
देता है।

- Beauty Vitamin

deficiency - ~~epidid~~ ✓
- mescula dystrophy ✓

- Butter, milk product,
green vegetable, meat, egg,

Vitamin K) -

contain chemical mena diene

- It is essential for blood
clotting

- leafy vegetable

- Deficiency - haemophilia

→ Health ✓
Wealth ✓

B B

Vitamin B :- (~~comp~~
 (complex \Rightarrow)

\Rightarrow B₁ \Rightarrow Contains thiamine/ thymine.

~~Alcohol~~ ~~intake~~

The deficiency - Berry \rightarrow Berry
 (गर्भ नहीं बढ़ता
 जमाव गर्भ लक्षणा)

- Green vegetable are best source of B₁

B₂ \Rightarrow Riboflavin

Deficiency causes -

\Rightarrow inflammation and
 cracks

cracking of corners

source - vegetable

~~B₂~~ \Rightarrow

Note - yellow colour of the curd milk
 is due to the presence of Riboflavin

B₃ \Rightarrow Niacin

Deficiency - Pellagra.

blue tongue disease,

\rightarrow ~~scorbut~~, ~~rickets~~, ~~beriberi~~
 scurvy, beriberi

B₄ - X

B₃ - It contains Pantothenic acid.
 Deficiency - Burning feet (Beriberi)

B₆ - It contains "Pyridoxine".
 Deficiency - Dermatitis

B₇ - contains "Biotin"
 It is present in honey
 Deficiency - loss of appetite

Folic acid - It is essential for the formation of red blood cells.

[RBC is formed in bone marrow]
 ↳ life 120 days

$\frac{70 \times 1}{12} = 5.8$ life blood

Note:

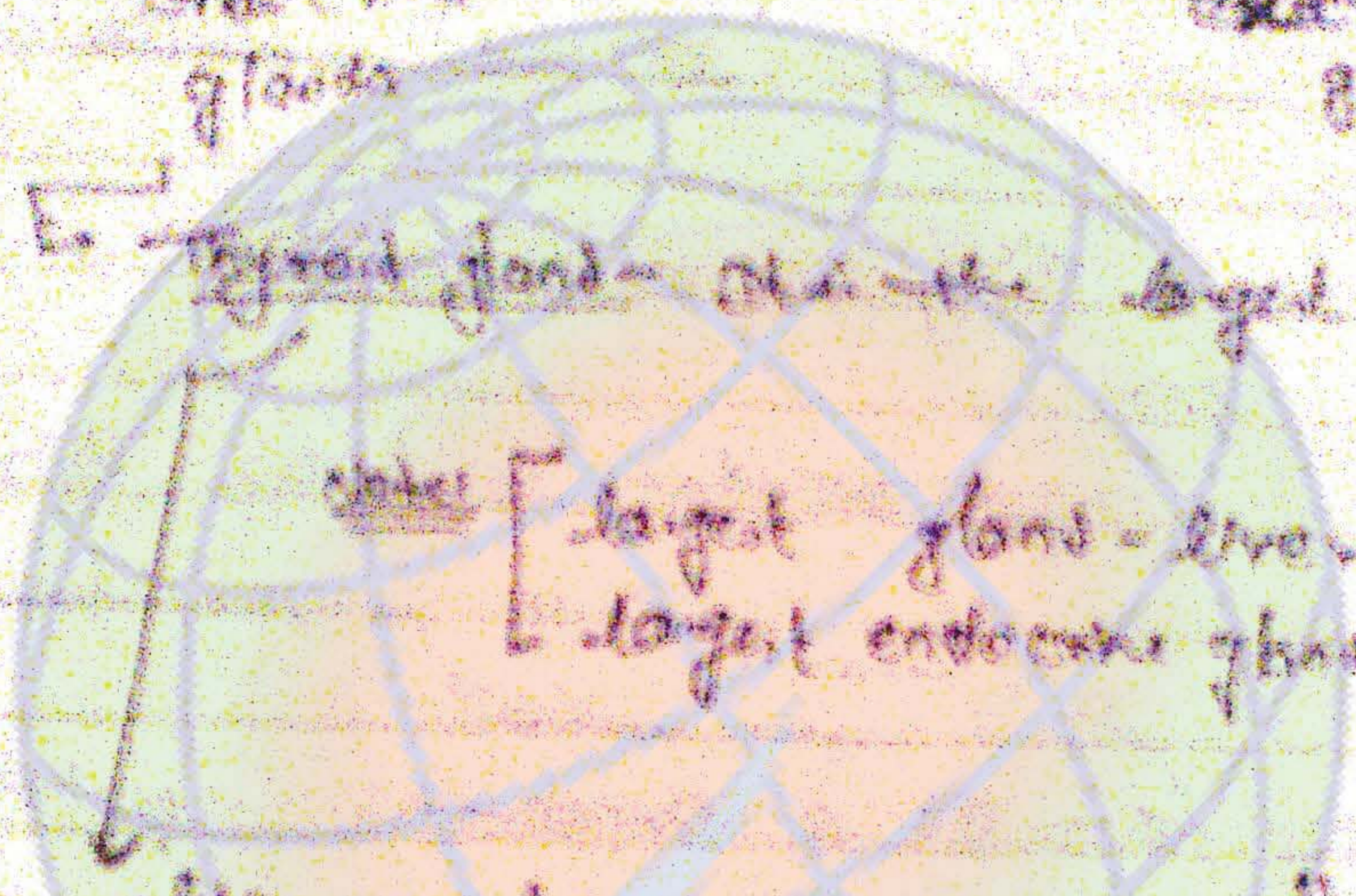
Endocrine System →

Consist of glands

endocrine glands

exocrine glands

(1)



Thyroid gland - the largest endocrine gland.

target glands - liver
 target endocrine gland - thyroid

secrete a hormone called "thyroxine"

Hyperthyroidism - Cause - goitre enlargement

Hypothyroidism - Cause - due to less secretion of thyroxine.

Old deficiency cause disease of the bones.

Thyroxine contains iodine

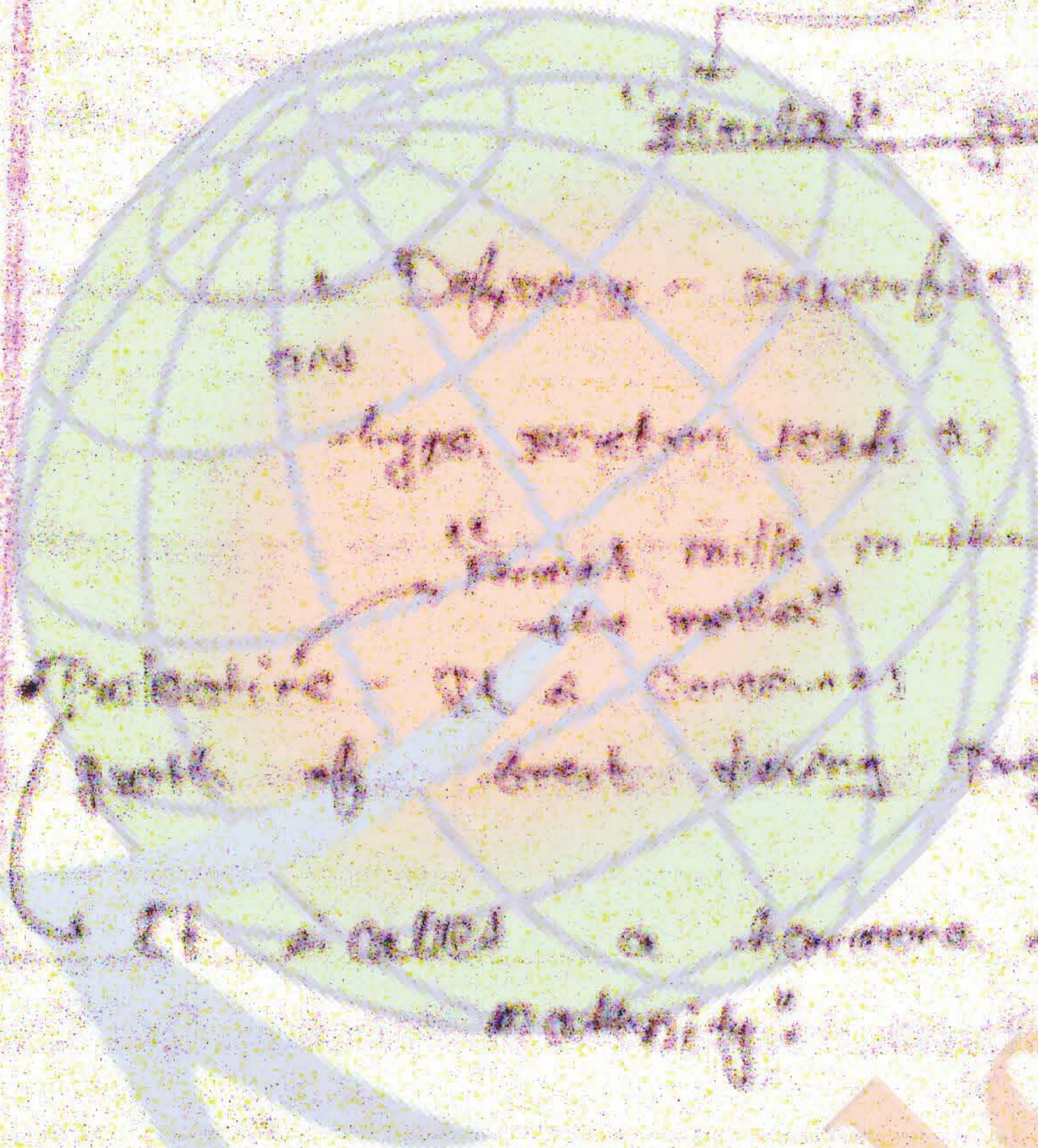
- a deficiency of iodine leads to make goitre

Placental-functio

(iii) Placental gland -

Lactation milk gland

It is called a milk gland



(iv)

Placental - It is ...
part of ...

It is called a hormone of maturity

• Vasopressin (ADH)
↳ anti-diuretic hormone

• oxytocin (OT) -
 secreted - from the release of milk from back of mother
 ↳ grows with the delivery of milk

the ...

It is also released at the time of delivery of child, milk ejection hormone.

Note: [Prolactin - release of milk
Oxytocin - milk ejection]

• Liver is the largest gland of the body. It secretes bile, & bile has no enzymes. Bile is stored in the gall-bladder.

↳ Surgical removal of gall bladder is ~~not~~ cholecystectomy.

• Super califragilistic eximious -

very good

Note:
you are poor make

If we compare the economic position of our country it is poor

● Disease:-

Pneumonia and microscopic filic

valcano coniosis



"lungs of disease"

WWW.GRADESETTER.COM

start

Reproduction

germ cells

somatic cells

(जीवित जीवों में अचिरे करते हैं)

① male
↓
~~sperm~~
sperm
(motile)

Female
↓
ovum/egg

○
↓
menstruation

○
↓
ovum is mature in the ovary of the cell.

(300 million pass through reproduction.)

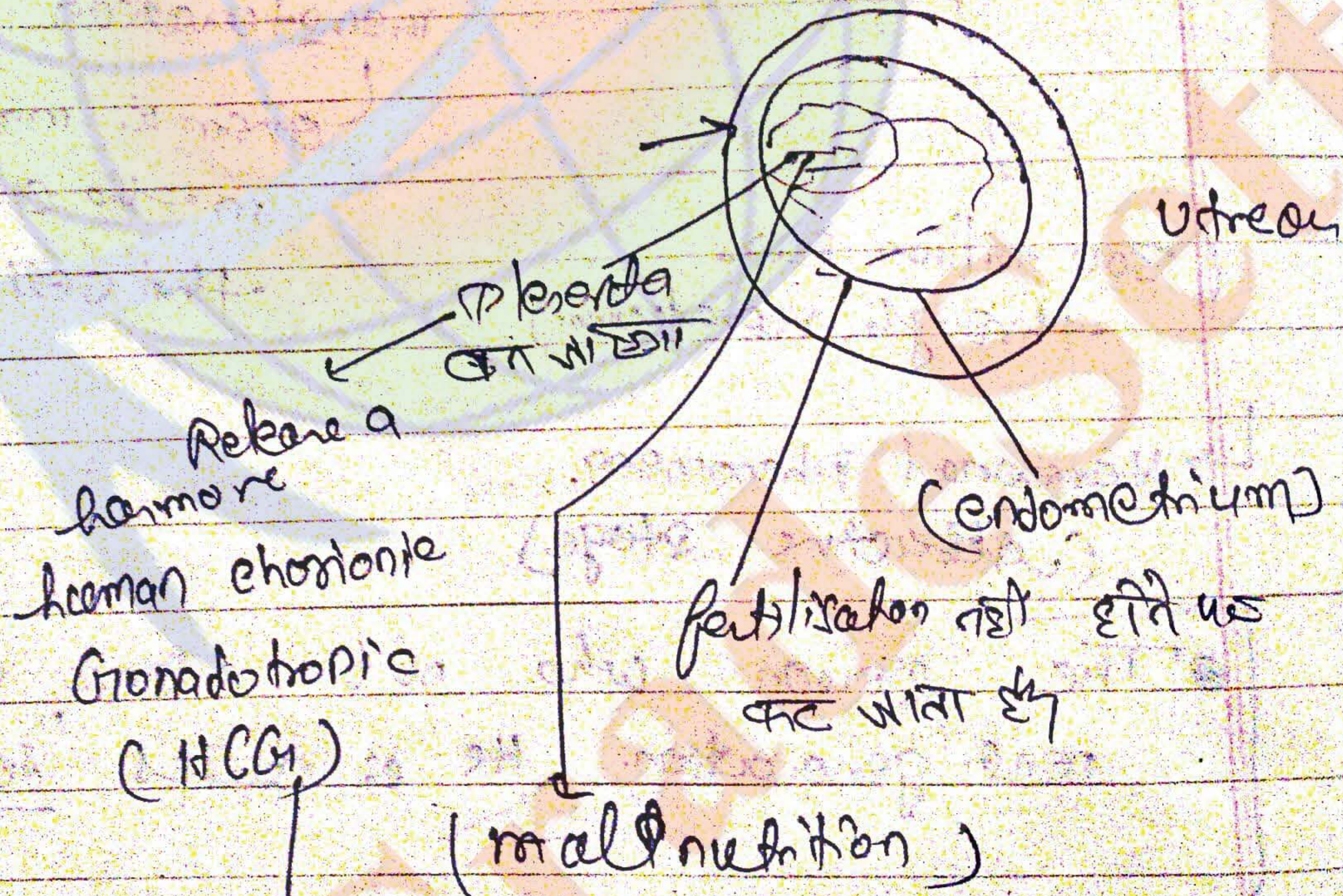
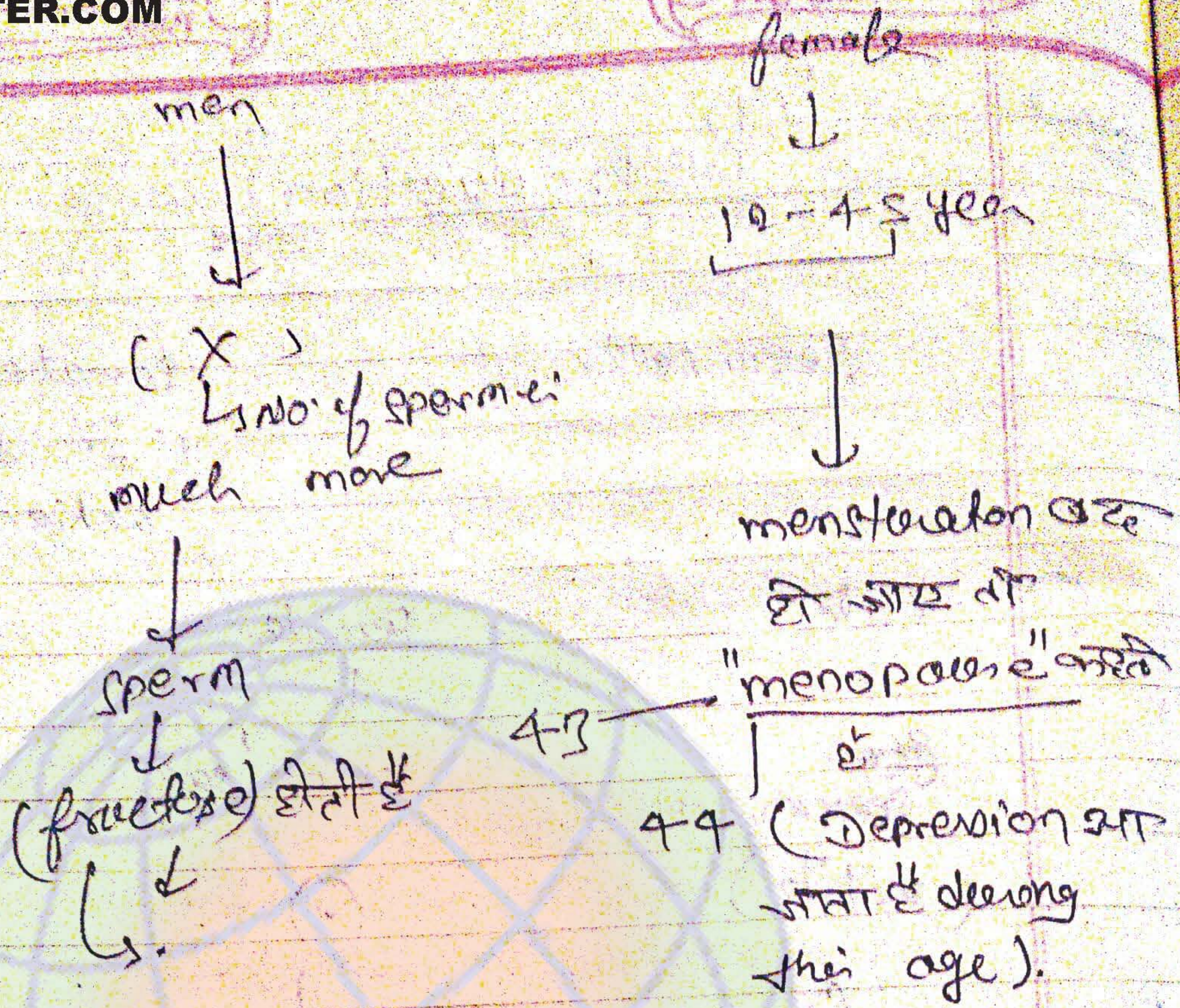
↳ Hormonal Phenomena.
(attractive stage)

② The person who not pass to the next generation. He is called "dead man".

↓
Adollescent age - Person comes in sexual maturity age

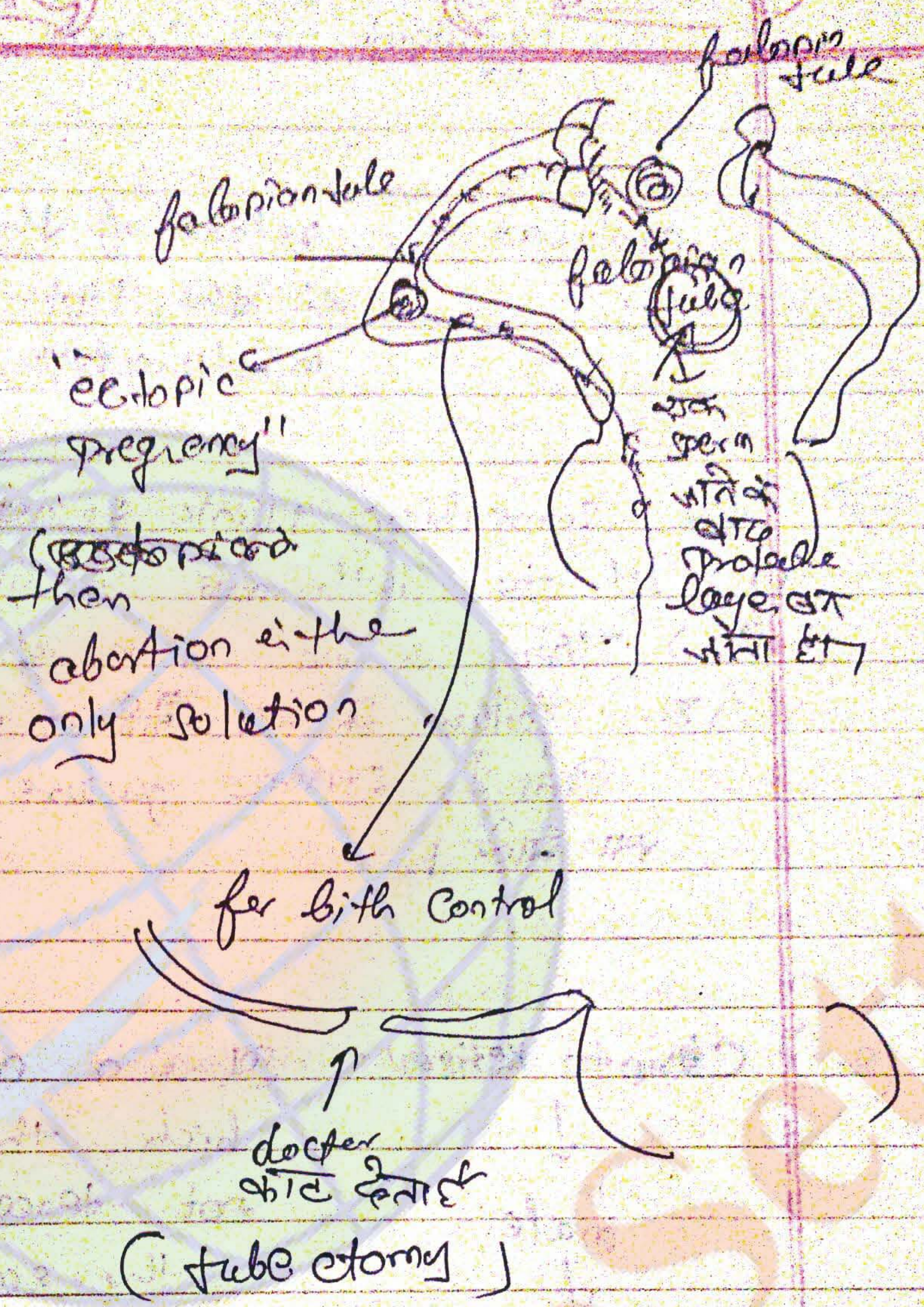
↓
③ secretion of fluid

"semen"

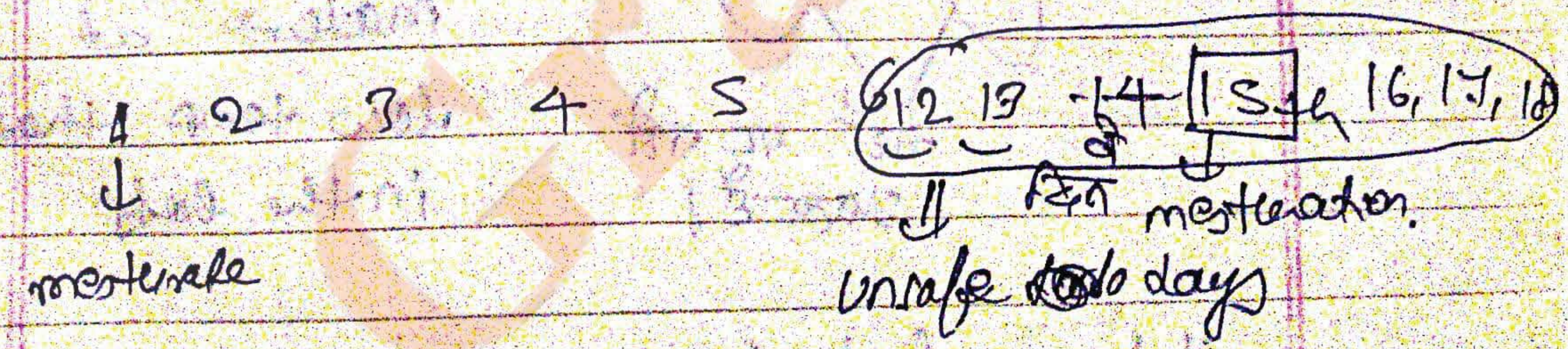


pregnancy and by the help of this we can confirm pregnancy.

Fertilisation always takes place in fallopian tube of the mother.



Note: male में काटने को vasectomy.
 female में " " " tubectomy.



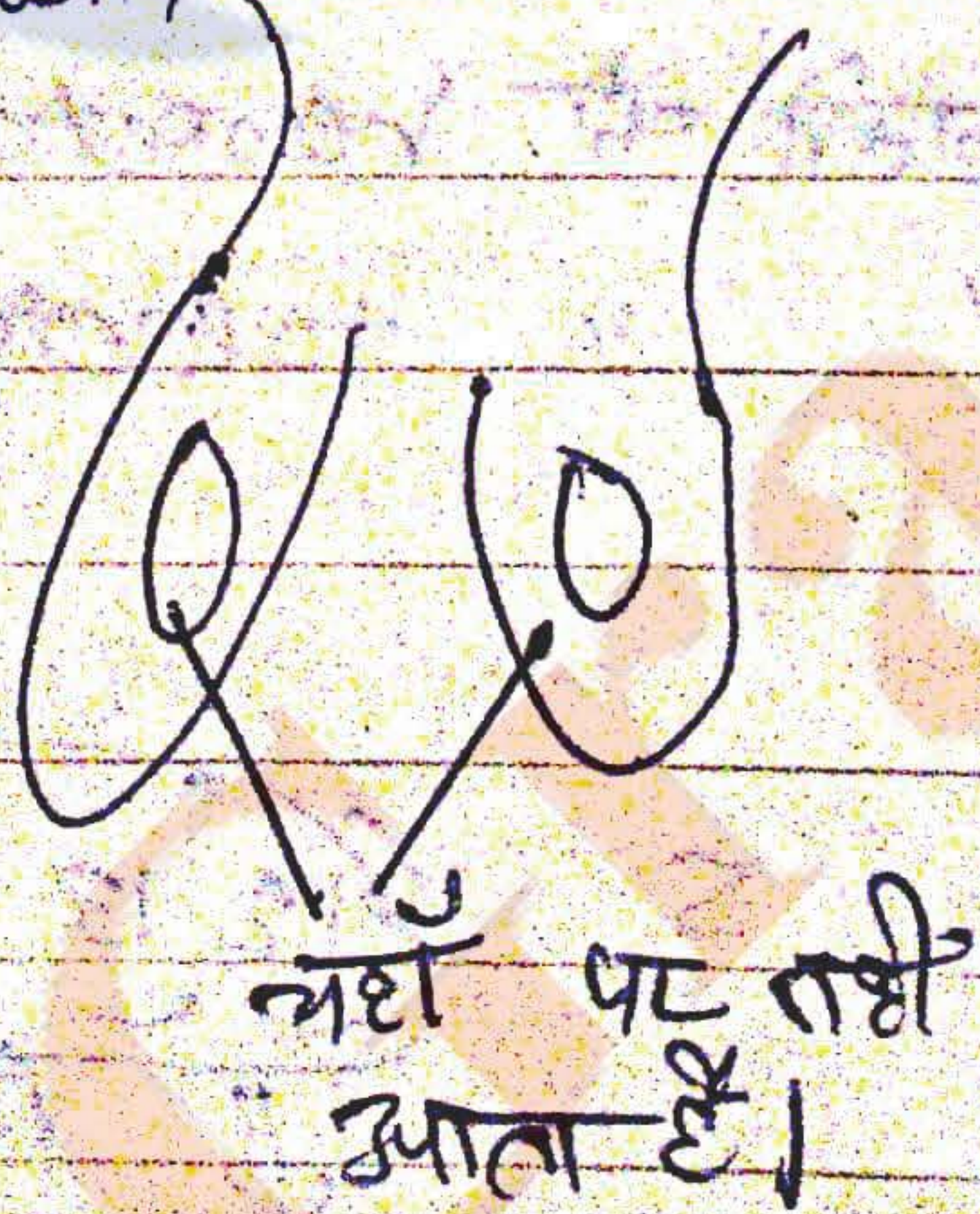
→ जीर्ण - mothe
 ↳ third mothe
 → egg bank - sperm bank

ovulation - release of the ovum
 at the 14th day of
 menstruation

- ⇒ Do something, think something -
- (1) 1st to 10th तक की खारी बक पड़े।
 - (2) There is no name of "frustration"।
 - (3) इस failure के पास कोई न कोई अवसर होता है, इसलिए failure से काफ़ी सँ न मिलें।

(2) Cryptorchidism - It is a condition in which the testes do not descend (तरना) into the scrotum.

↓
 male
 ↓
 testes



The testes are outside the abdomen, sperms mature at a low temp than in the body.

Note: elephant का testes, abdomen में ही होता है।

(3) Amenorrhoea

It is the absence of menstruation.

(4) Menorrhagia

when there is excessive menstruation

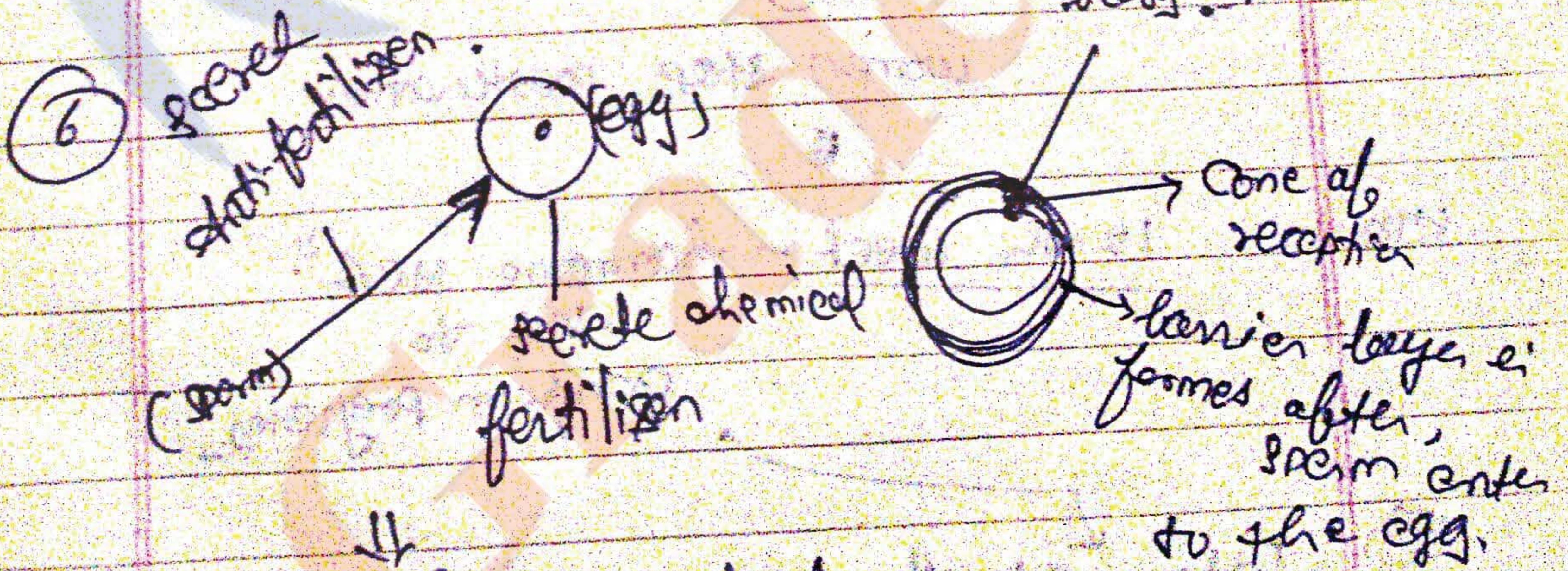
(5) Dysmenorrhea

It is painful menstruation

(6) In testes of the male there are special types of cells called

- (i) Sertoli cells - concerned with nutrition to the developing sperms
- (ii) Leydig cells - secrete hormone testosterone.

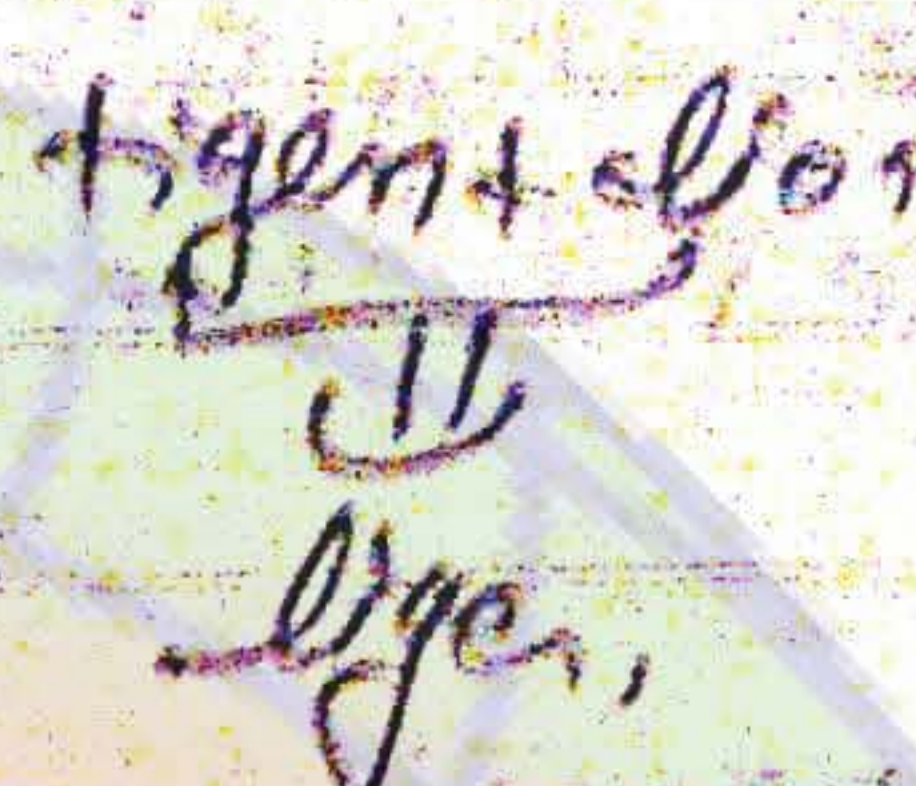
↓
due to this hormone sperms mature in the body.



Sexual reproduction is intraspecific, this is decided by fertilin (sperm/egg), anti-fertilin (sperm)

Anti-sperical "time for women"
↳ receive sexual pleasure

(7) - Strine = stress (संकोच)
↳ sexual generation = ही (हीन)
(जब दो अलग-अलग को मिलकर बनाया जाता है)



(8) male sperm - 48 hours alive
female egg - 72 "

(9) Endometrium
↳ inner most layer of uterus

(10) 13th week of fertilized
↳ women stop menstruation

12th week - hormone "HCG"
test to confirm pregnancy

Fetus starts moving
↳ 16 to 20th week - mother starts feeling the movement of fetus

Note

Malthus theory



Population grows in geometric proportion

and

food grows in arithmetic proportion

(d) family planning program was initiated in 1951.

Sexual → gonorrhea,
transmitter
disease

(e) HIV → its incubation period

↳ 10 साल तक
↳ mean's 35% एक बार
HIV, एक काल पर
6 से 10 साल तक पर

Q → Unrecedibility of job होना चाहिए
↳ एक साल बाद पर होना चाहिए

(d) Demography

↳ Study of Population Statistics.

1840 - पहला सेंसेस.

~~पहला सेंसेस~~
सब

1891

1901

11

21

2011 → से 10 साल बाद सेंसेस होता है

(e) 1911 - 1921

↳ Population बढ़ी थी

↳ Year of Great Divide,

(Demographically)

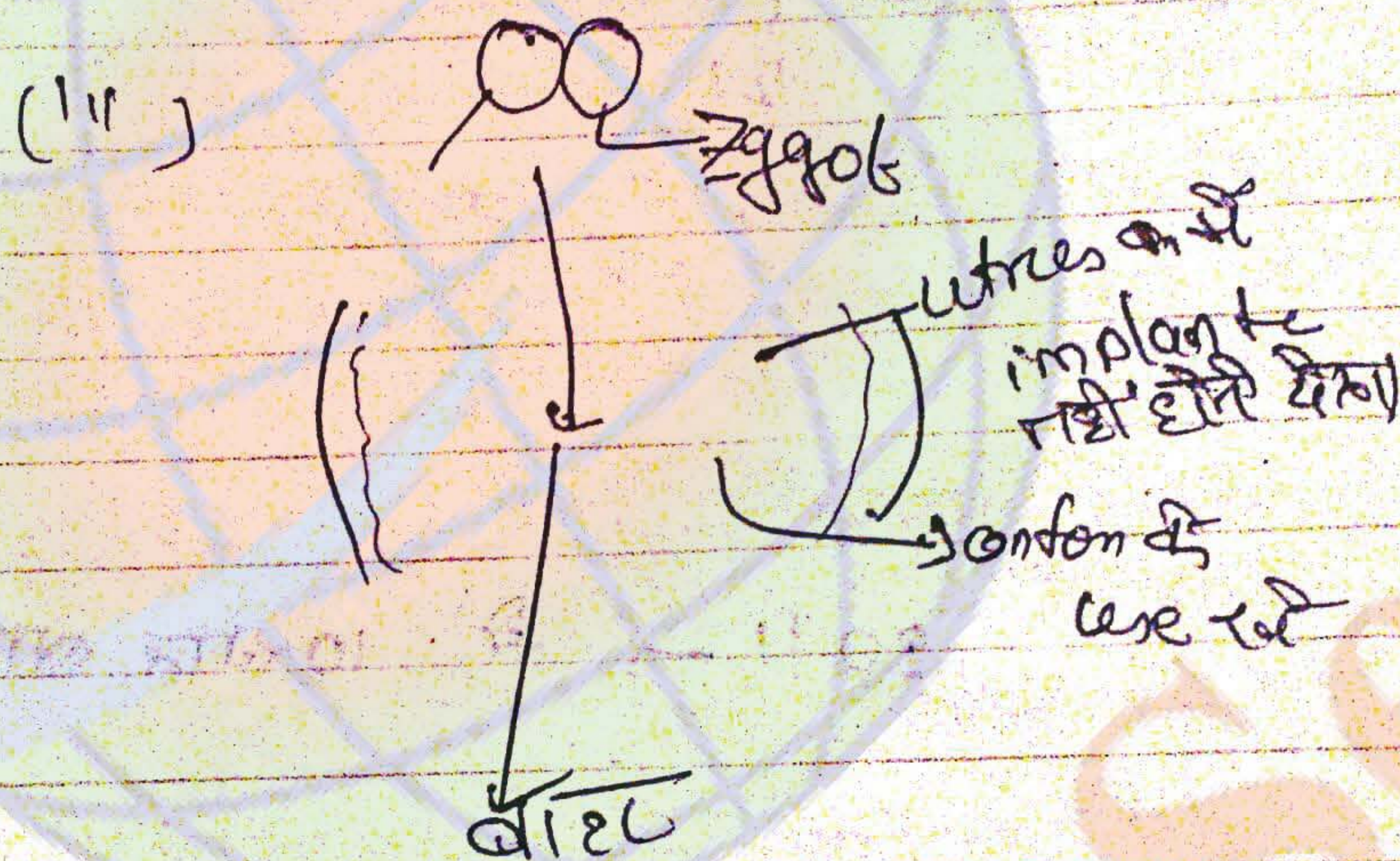
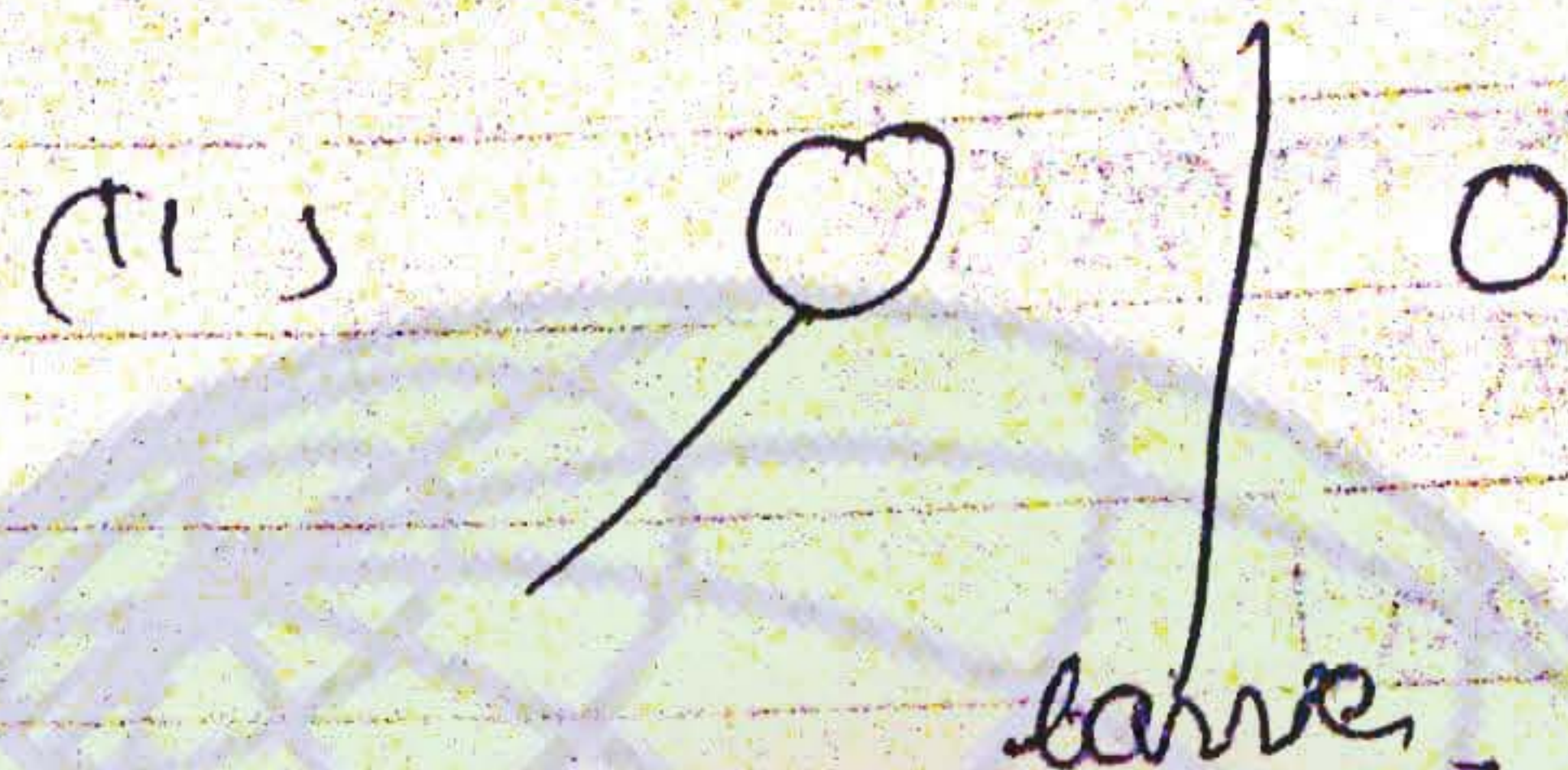
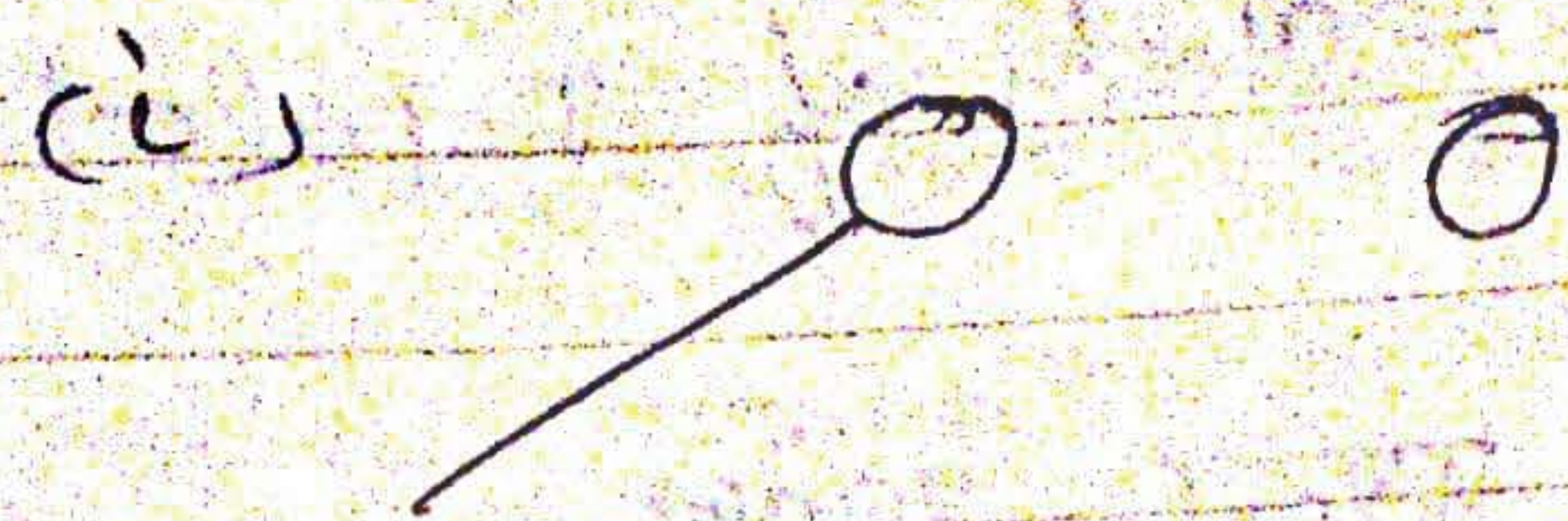
∴

As world war के इर थे, वे सभी

सह जा लगे, इसलिए कम लगे

पैदा किया

[13] Birth Control :-



(vi) 1st - 14 =>

12-13-14-15-16-17-18

Unsafe days.

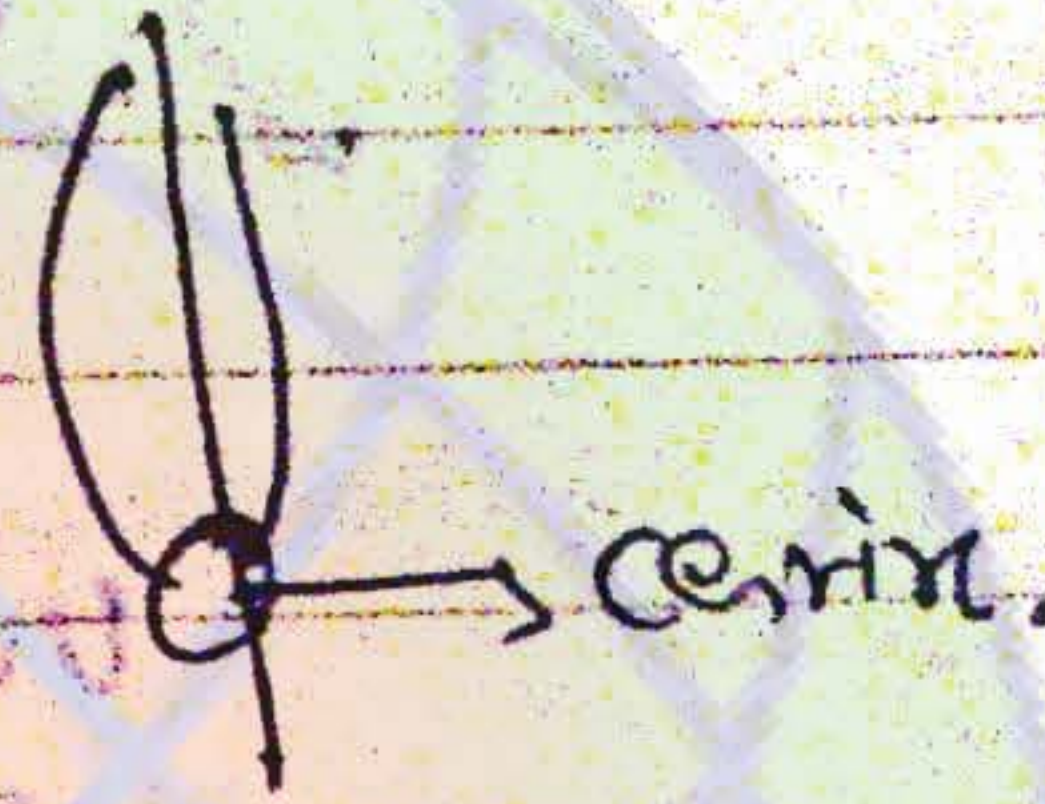
↓
Kelp's
ferti.
well

No

शुद्ध विज्ञान
सर्वोपरि

(vii) The mechanical methods are "Condoms" in male or vagina of female.

(ix) Cervical caps - they all prevent the entry of sperm.



(x) Copper-T is fitted & filled

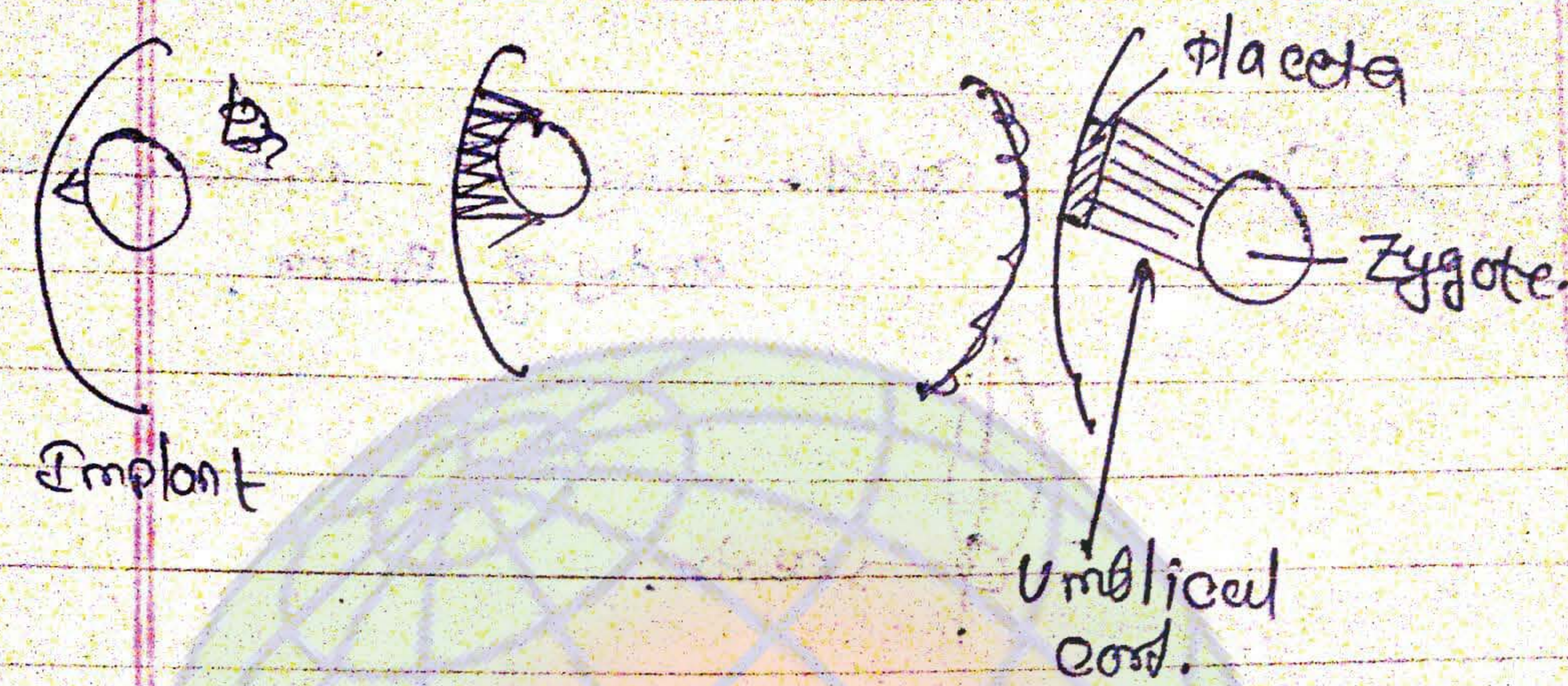
↳ Intra uterine device

Help's to control fertilisation as well as implantation. These Copper-T, release Copper ion, which reduce the motility of the sperm.

Notes - volicity -

Tragam -

~~COAGRA~~ ~~sit~~ ~~deora~~
~~SHI~~ ~~SHARUK~~ ~~ekherade~~

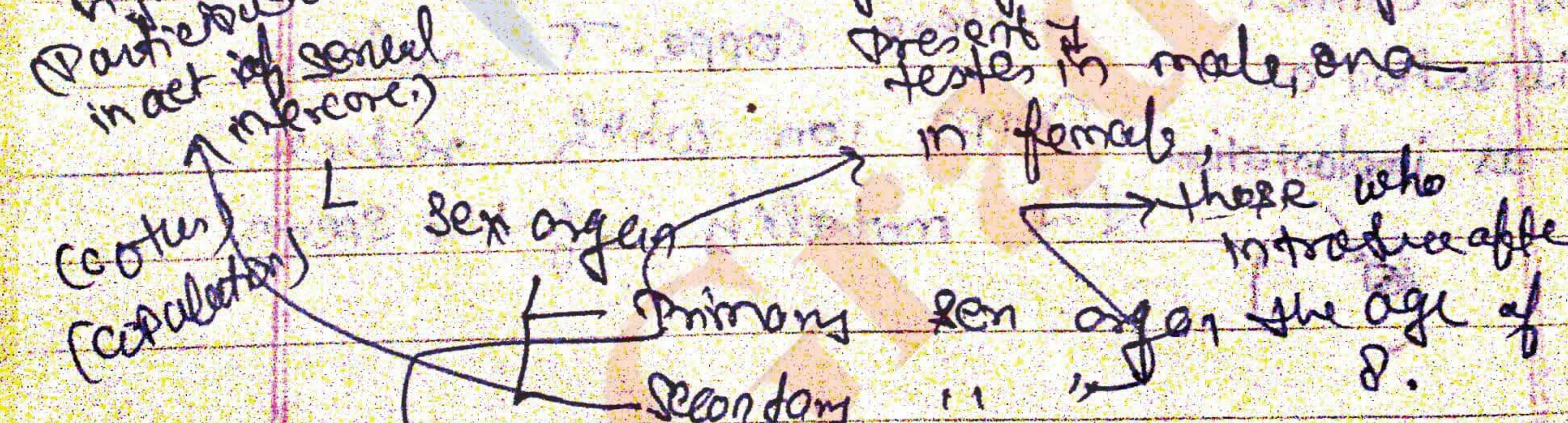


L Trophoblasts ?

L Rh^+ Rh^- ?

L Pill ?

Contraceptive pill's contains the hormone progesterone and oestrogen. Present in testes in male, and in female.



male & female

L sex only set at the time of fertilisation

[14] ⇒ SAHEL I →

(a) Saheli is a contraceptive Pill, which has been prepared in India at CDRI (Central drug research institute)

it is in Lucknow.

* side effect are very less.

(b) NOR PLANT :-

for six months there is no pregnancy.

↳ contraceptive $\frac{1}{2}$,

• Testosterone - M...

(c) MTP - (Medical Termination of Pregnancy)

safe for 12 weeks,

~~after starts~~

legalised by Gov. of India in 1971.

Note!

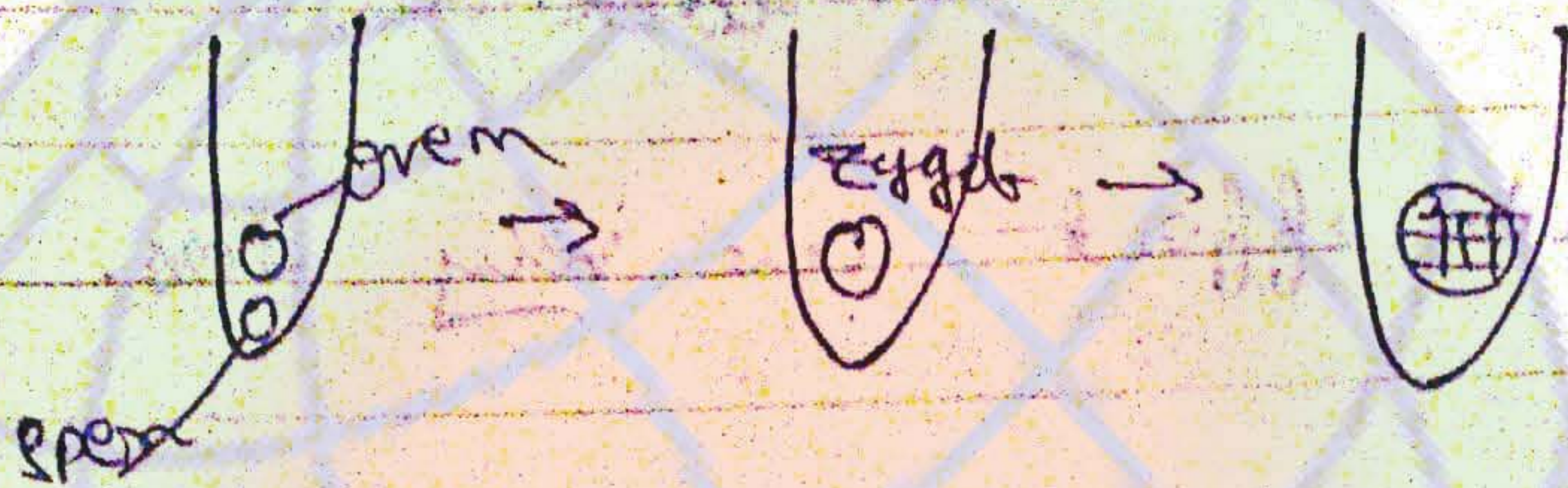
Two backbone of Country - (i) Education, (ii) Health.

(15) Artificial insemination.
Test tube Baby!

- Ovary bank
- Sperm bank

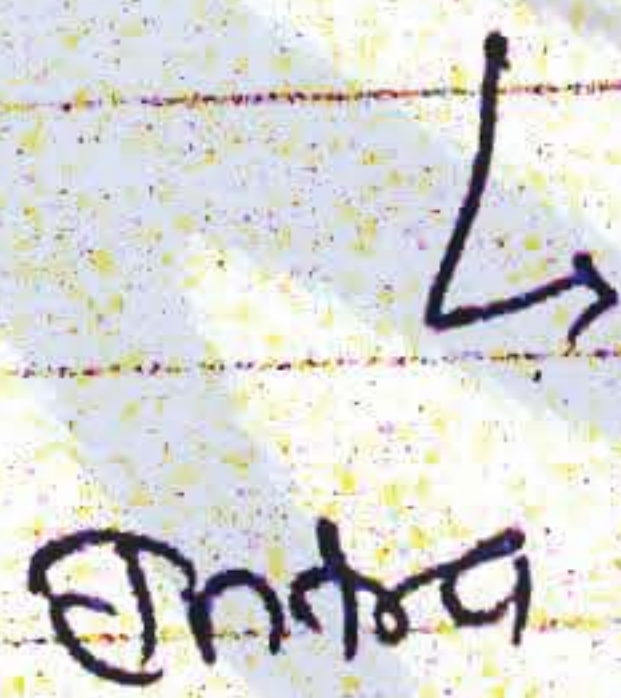
• The world 1st test tube baby was Louise Joy Brown. He was born on 25-07-1978 in UK.

• The India 1st test tube baby is Kum Harsha. He was born 06-08-1986 in K.G.M hospital Bombay.



(1) ZIFT - Zygote intra fallopian transfer

above 8 cell stage, then transfer to uterus of mother



(ii) IUT - Intra Uterine transfer

↳ direct transfer

(iii) GIFT - Gamete intra fallopian transfer

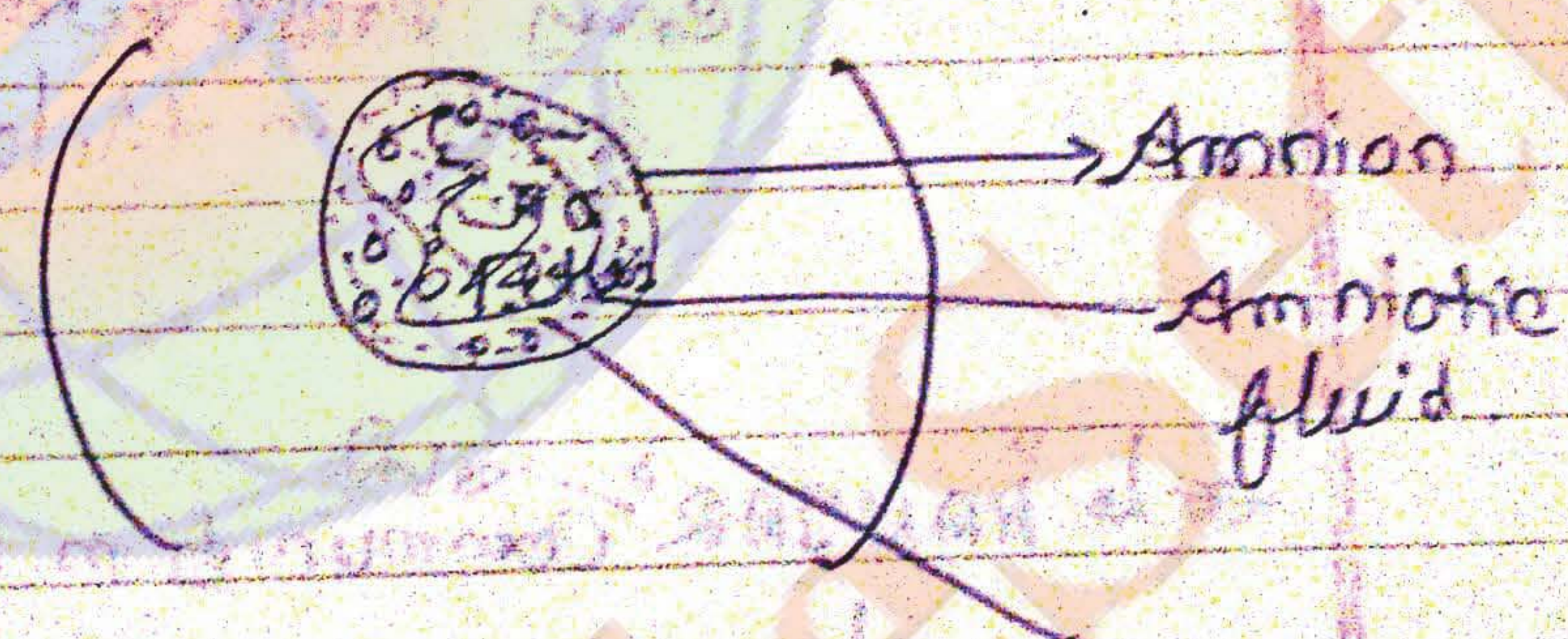
1st
be baby was
of Brown
born on
1st 8 in UK.
1st test tube
born
in K.B.M
hospital
Bombay.

(IV) Surrogate mother - 2nd mother or
help 1st 2, 2nd 1st or
1st 1st

(V) Insemination - sperm in female or
vagina or uterus
(Artificial insemination - like
test tube baby)
To see, to check any
genetic disease.

(VI) Amniocentesis -

4th month of pregnancy



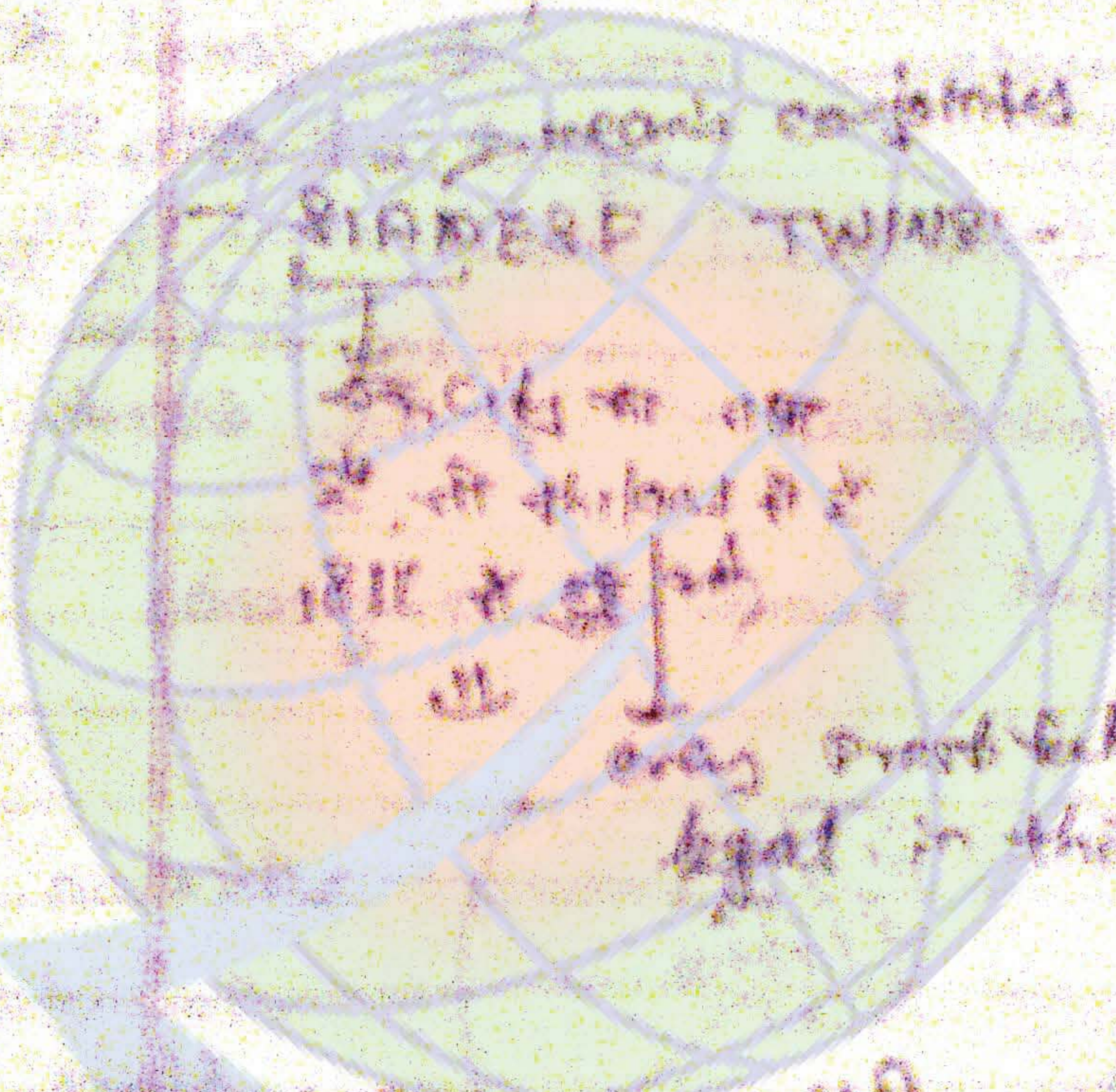
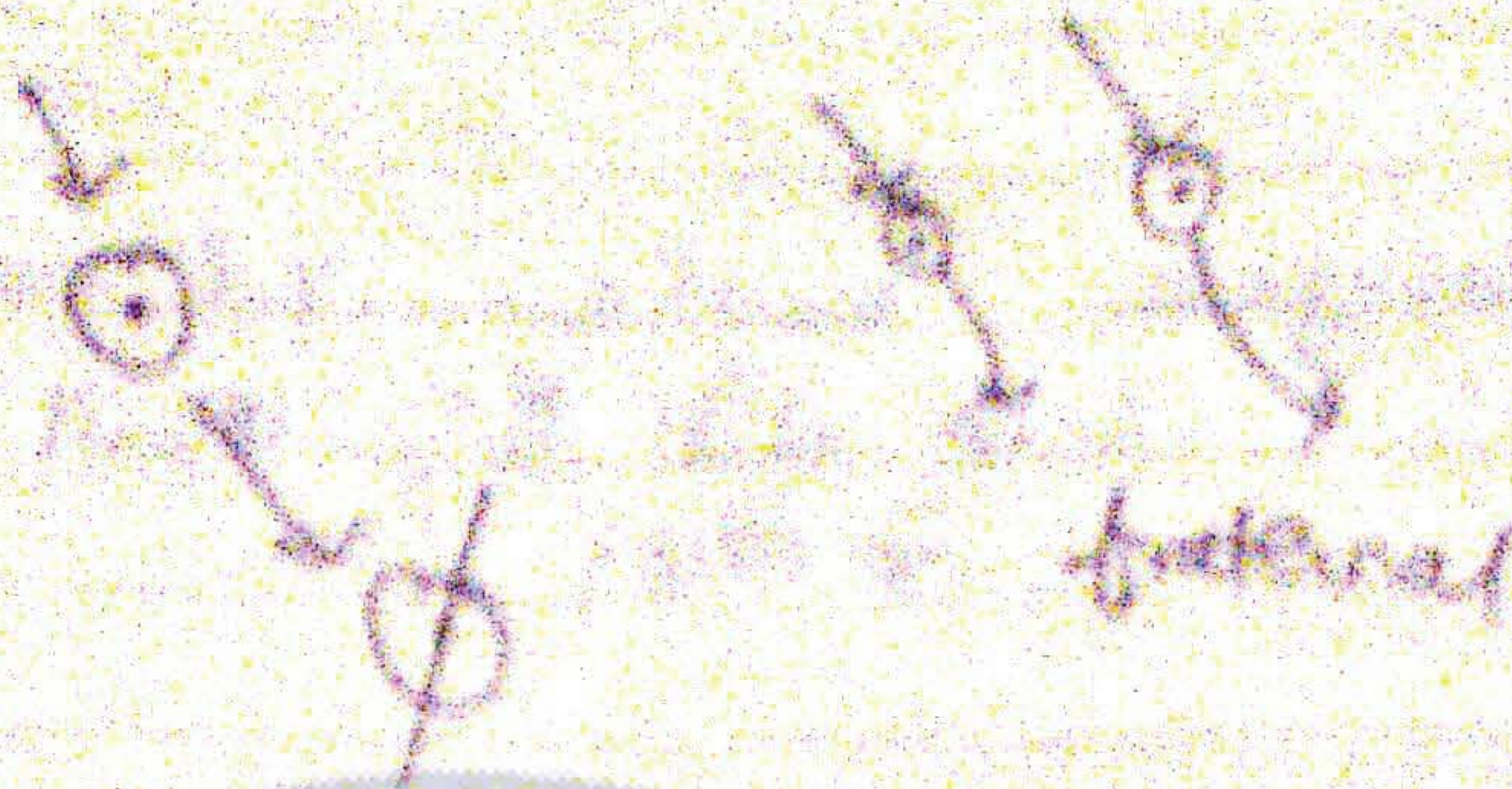
Read the chromosome
with taking blood.

XX - Female
XY - male

The technique of amniocentesis is
used to know the various genetic
disease of the developing child
fetus.

then
mother

(16)



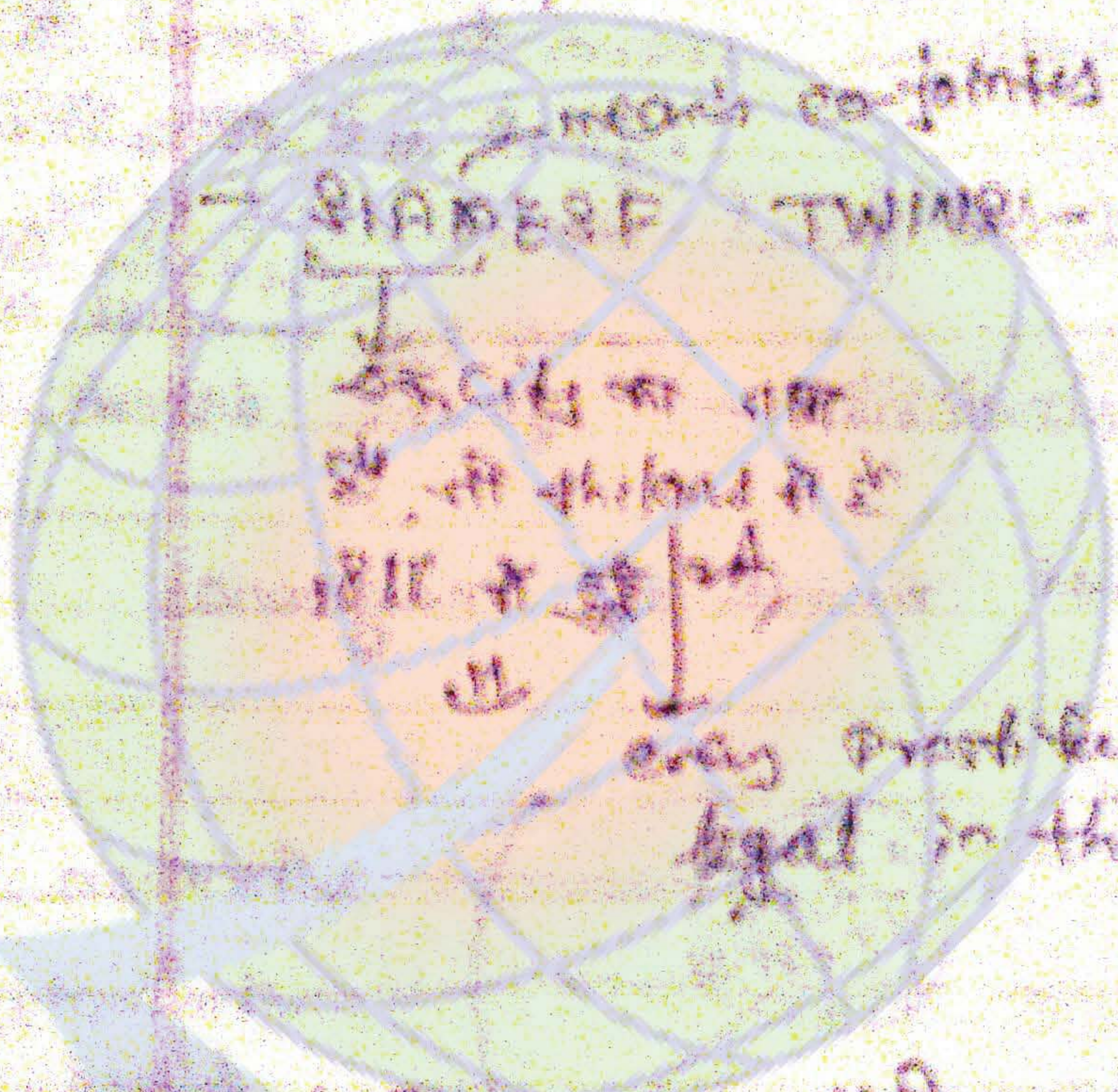
every problem is legal in the long

संघर्ष संघर्ष
संघर्ष संघर्ष

संघर्ष संघर्ष

संघर्ष संघर्ष

(16)



संघर्ष प्रकृतिक है
कानून प्रकृतिक है

संघर्ष प्रकृतिक है
कानून प्रकृतिक है

संघर्ष प्रकृतिक है
कानून प्रकृतिक है

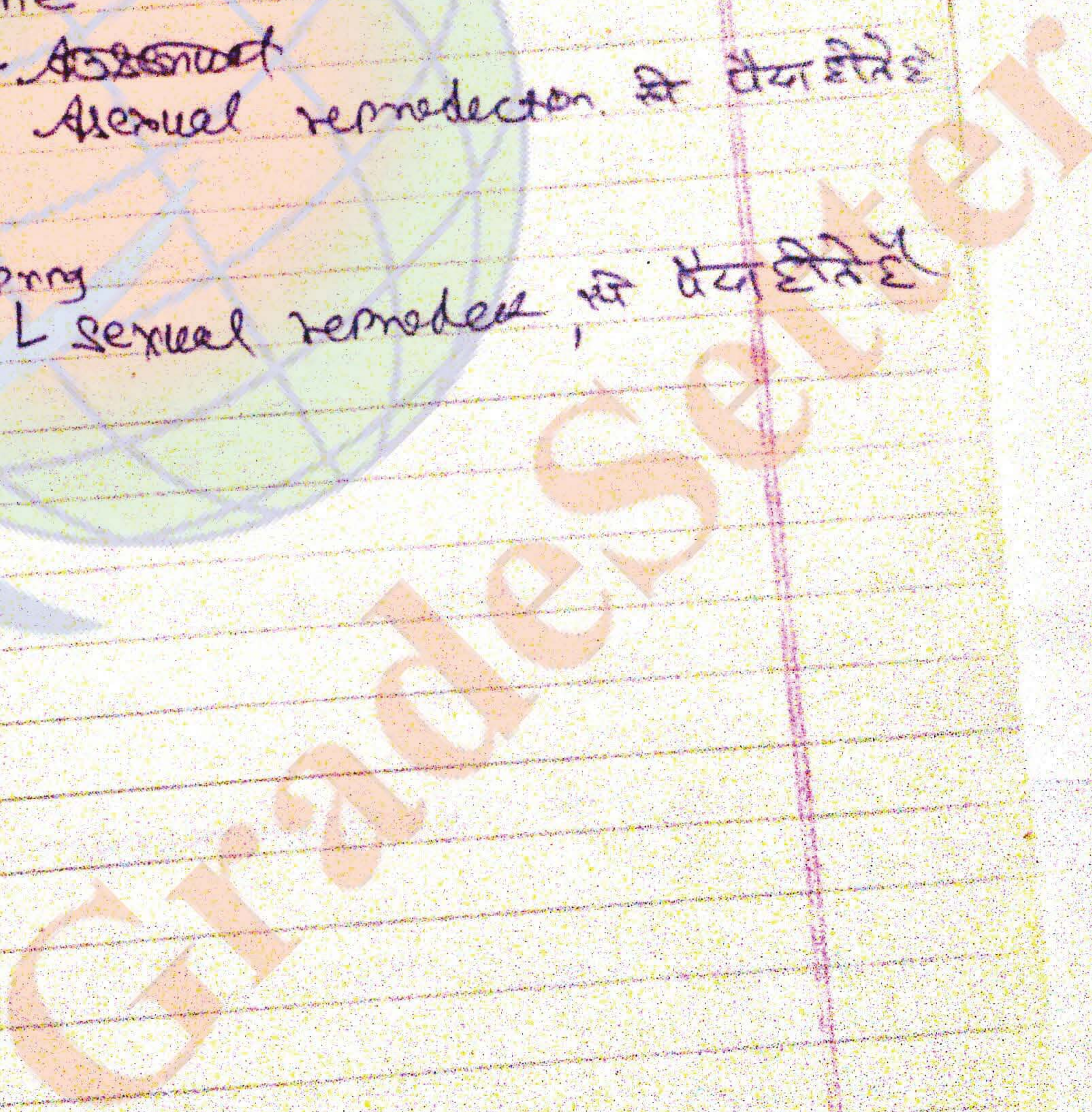
Page No. _____

Date _____

(17) ~~clone~~ clone
 ↳ ~~Asexual~~
 Asexual reproduction. જે વેગદોરે

[Group is called clone, one member of clone is called ~~the~~ Ramet.]

• ~~asexual~~
 ↳ sexual reproduction, જે વેગદોરે



Q.1

Blood Groups

Q.2 Four types of blood group:

| | Antigen | Antibodies |
|----|---------|------------|
| A | A | B |
| B | B | A |
| AB | A, B | X |
| O | X | AB |

Universal donor

(1) discovered by Karl Landsteiner, 1900. Antigens are solid in form.



RBC 120 $\times 10^6$
 [per mm³]

Haemoglobin
 above protein.

They not divide
 only 120 $\times 10^6$
 cells are there.

Haemoglobin - solid state

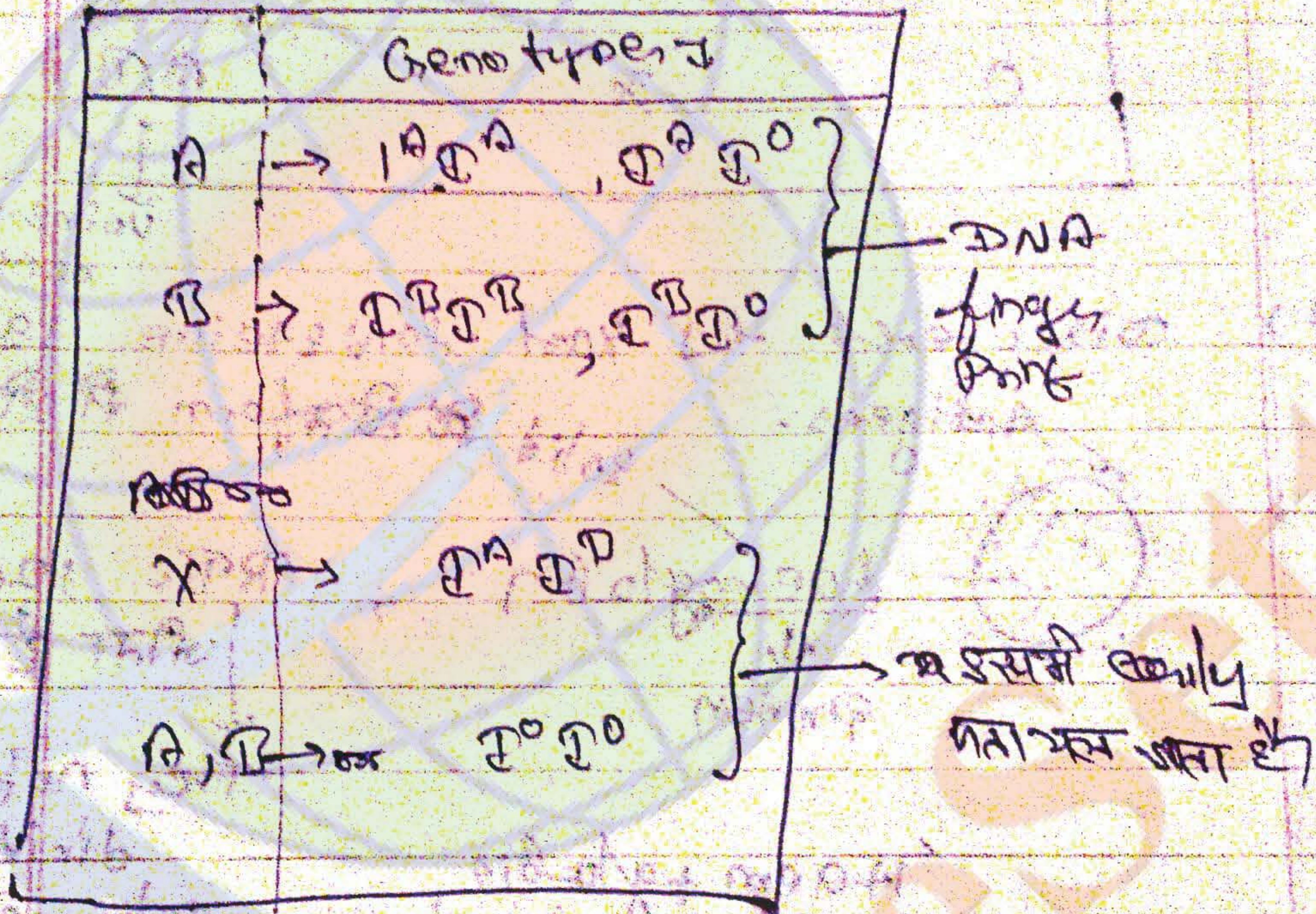


11 तारावा
11 अक्षरी

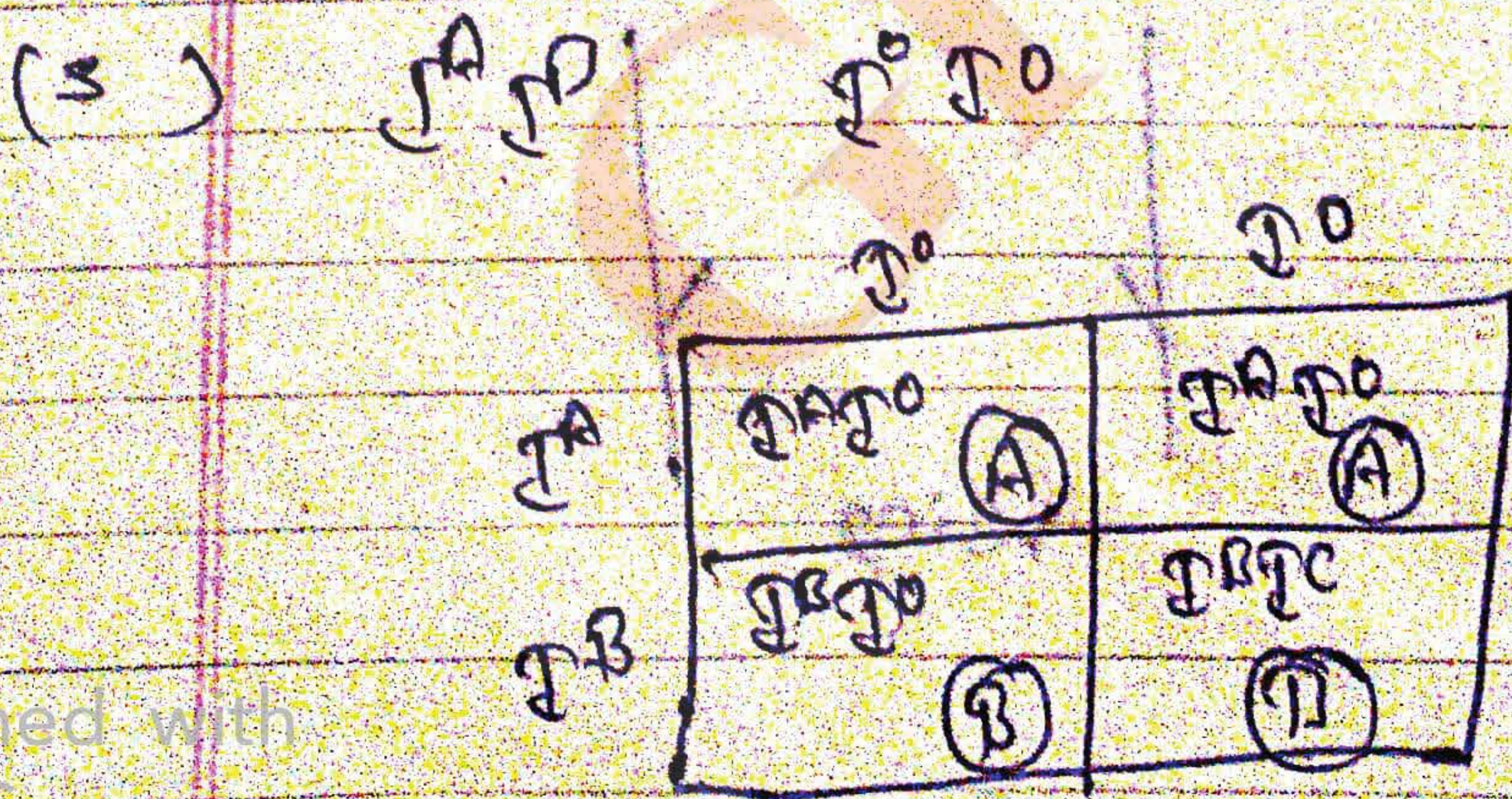
Antigens :-

Antibodies - always proteins in nature.

(4) Genotype :-



Note - Phenotype - 4 type
Genotype - 6 type



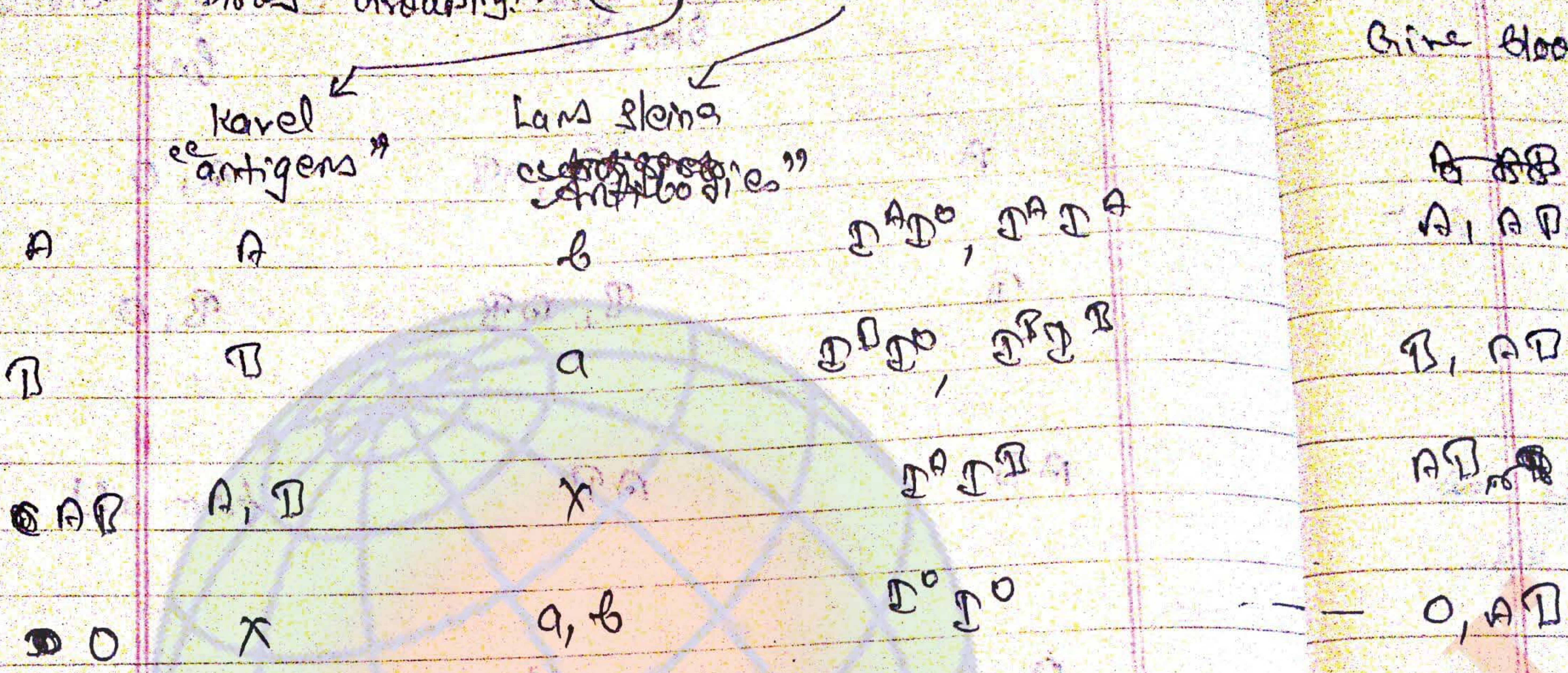
| | Can give blood to | Can get blood from |
|----|-------------------|--------------------|
| A | A, AB | A, O |
| B | B, AB | B, O |
| AB | AB | from all |
| O | to all | O |

Note: "Safest blood", ~~attention not "O"~~ only O⁻ is safe blood

Note: O⁻ blood is the safest blood, in emergency case, etc.

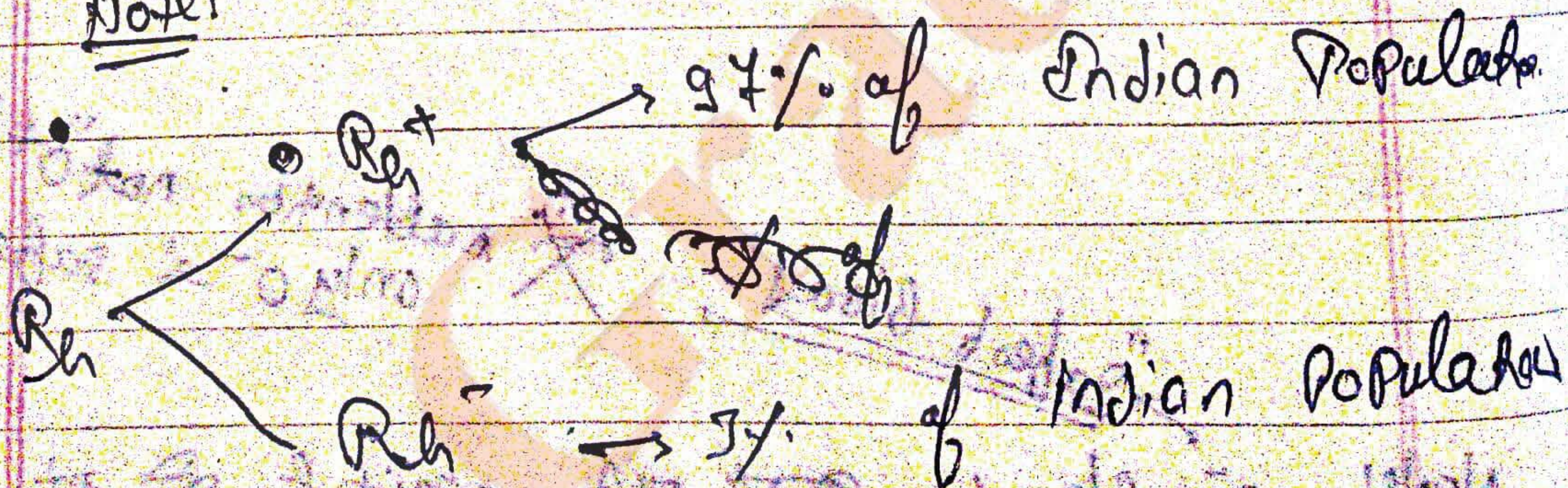


⇒ Blood Grouping: - (Karel and stener)



There is a Protein named as Rhesus Antigen. It is present on the surface of Red blood cell of some persons.

Note:



• Rh+ dominant one Rh-

Give Blood Get blood from.

A, AB
A, AD

A, O

Rh
Rh+ Rh-

Rhesus

B, AB

B, O

AD, AB

AD

O, AD

O

→ Rh- x Rh+ → X

Rh+ x Rh- → X (check karvane hueke pregnancy ke samay)

Rh+ x Rh+ →

Rh- x Rh- → ✓

→ Rh+ (father) x Rh- (mother)

↓
Rh+

↓
Delivery
(Parturition)

↓
Rh+ (बच्चा)

→ यह बच्चा Rh+ कोड़ेगा।
↓ ↓ ↓ ↓ ↓
when mother pregnant on 2nd time
↓ ↓

→

Rh^+

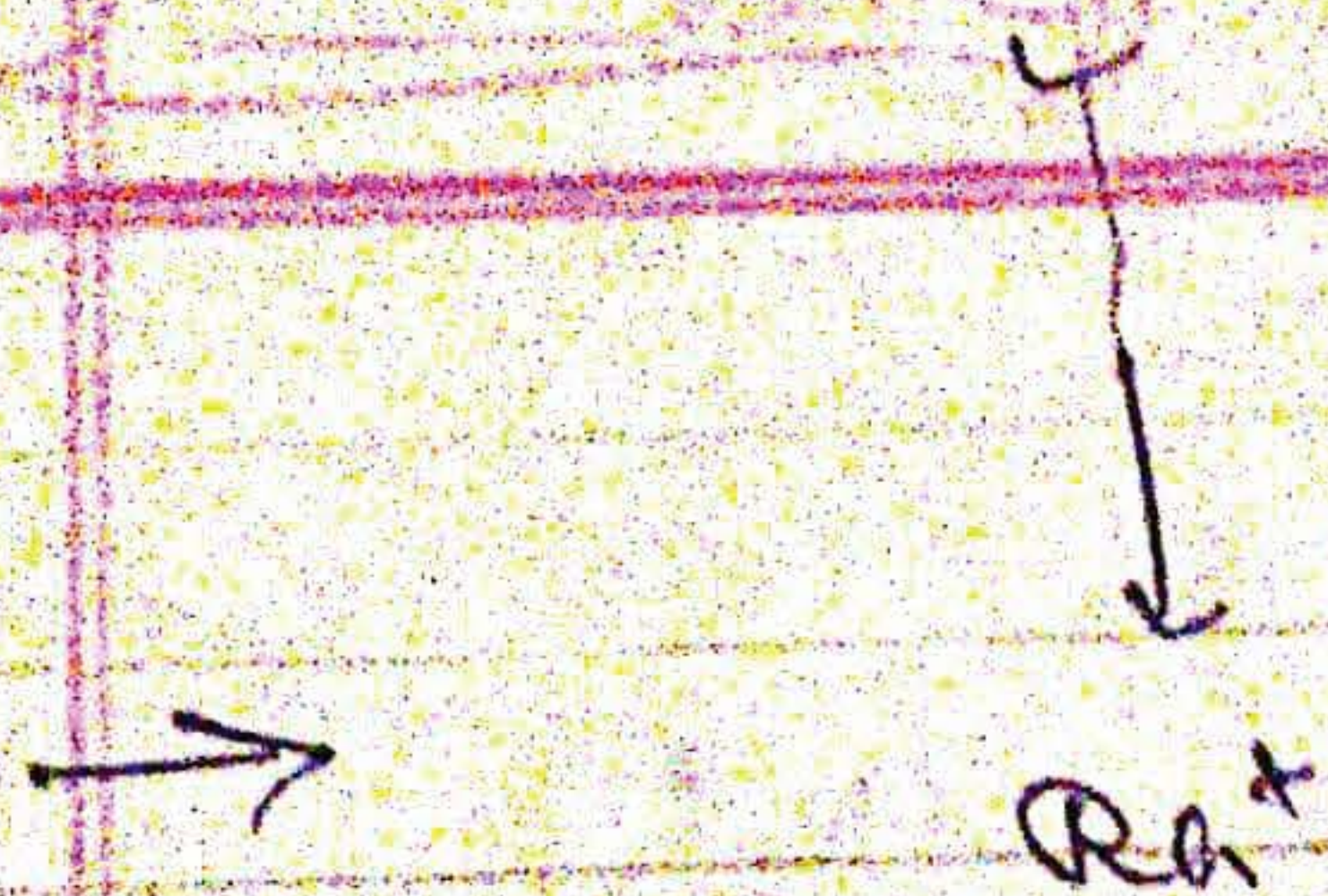
इससे बच्चे के RBC को Rh⁺ का Rh माना जा सकता है।

Rh^+ \times Rh^- की pregnancies की खतरा blood check करवाते की जरूरत है।

⇒ Erythroblastosis fetalis - (बिमारी है)
 RBC \downarrow blastosis, fetalis
 नारियल fetus का

⇒ "Medical Science is the science of exception?"

⇒ When Rh^+ is married to Rh^- , the child is Rh^+ , when the child is delivered, there is mixing of blood of the child and the mother. The child leaves (जाता है), Rh^+ antibodies in the womb of the



इससे बच्चे के RBC को माँ का RBC
सादर हो सकता है।

Rat+ x Rat- की इस pregnancy में
जब तक blood check कराते की
जानकर है।

⇒ Erythroblastosis fetalis - बيمारी है।
RBC ↓ नार देना fetus में

⇒ "Medical Science is the science of
exception?"

⇒ When Rat+ is married to Rat-, the
child is Rat+, when she child is
delivered, there is mixing of blood
of the child and the mother.
The child leaves (बैरि देता), Rat-
antibodies in the blood of the

⇒ Hypertension → blood pressure का बढ़ जाना

⇒ ~~Arteriosclerosis~~

⇒ Atherosclerosis :-

⇒ Arteriosclerosis :-

⇒ Bradycardia
↓
It is the decrease
in Pulse rate

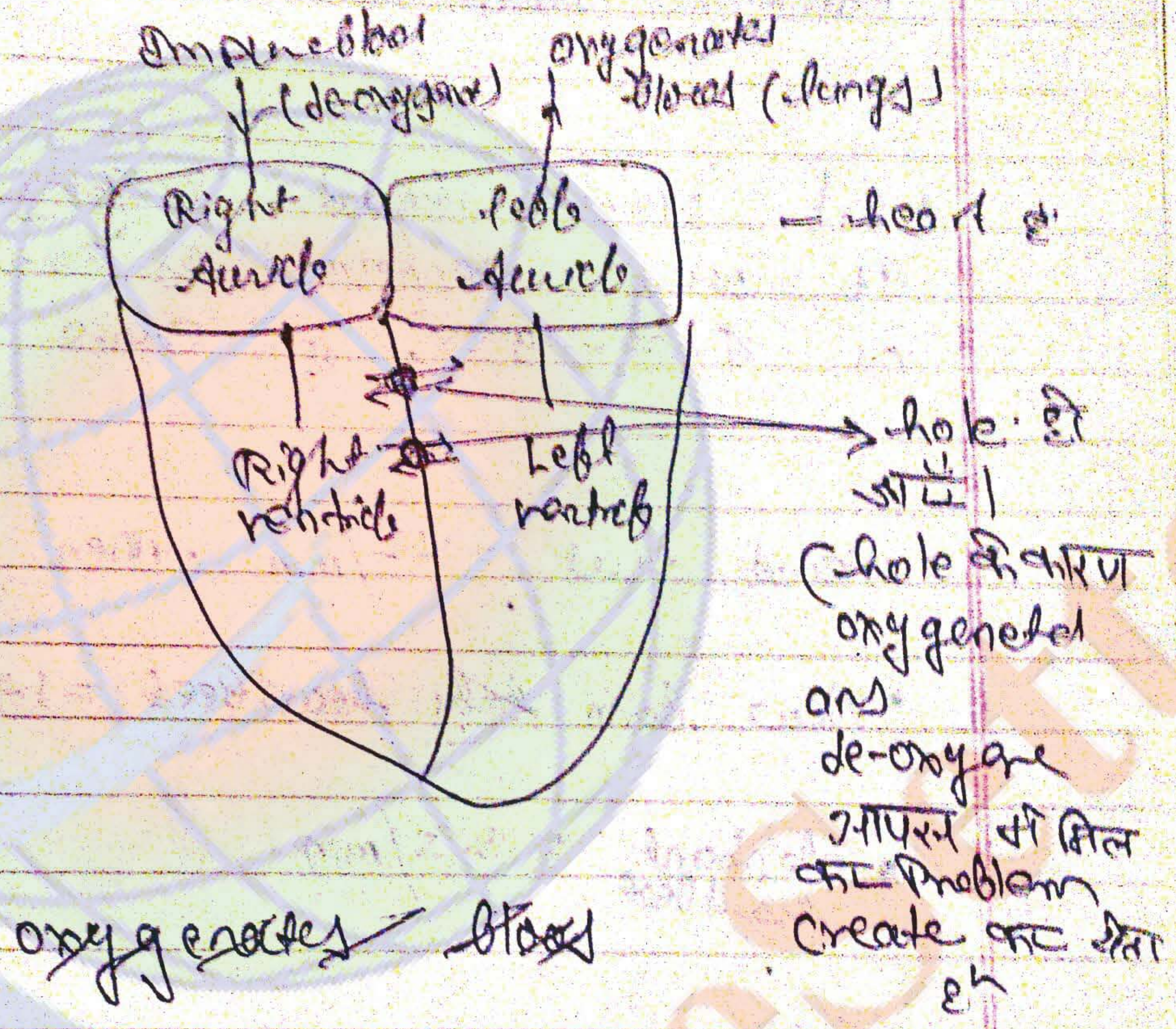
Tachycardia
↓
It is the increase
in Pulse rate

Note -
1 min → 72 Pulse rate
(Generally)

⇒ Blue
to
has
sep

बह जाना

⇒ Blue Baby - It is the name given to an abnormal human baby who has a hole in the ventricular septum.



• The world's 1st human heart transplant was performed on 3-12-1967 by Dr. Christian Barnard but the patient died on 21-12-1967, in South Africa

• India's 1st human heart transplant was performed on 3-18-1994 by a surgeon P. Venugopal in AIIMS New Delhi.

• 1st bone marrow ~~trans~~ transplant
in India - 27-4-1983 in JLN
Memorial Hospital Mumbai

• 1st open heart surgery in India
It was performed by Dr. N. Gobinath
on 6-7-1959 in C.M.C. Vellore.

• Heart beat = 72/min - men

• New born baby heart beat = 140/min

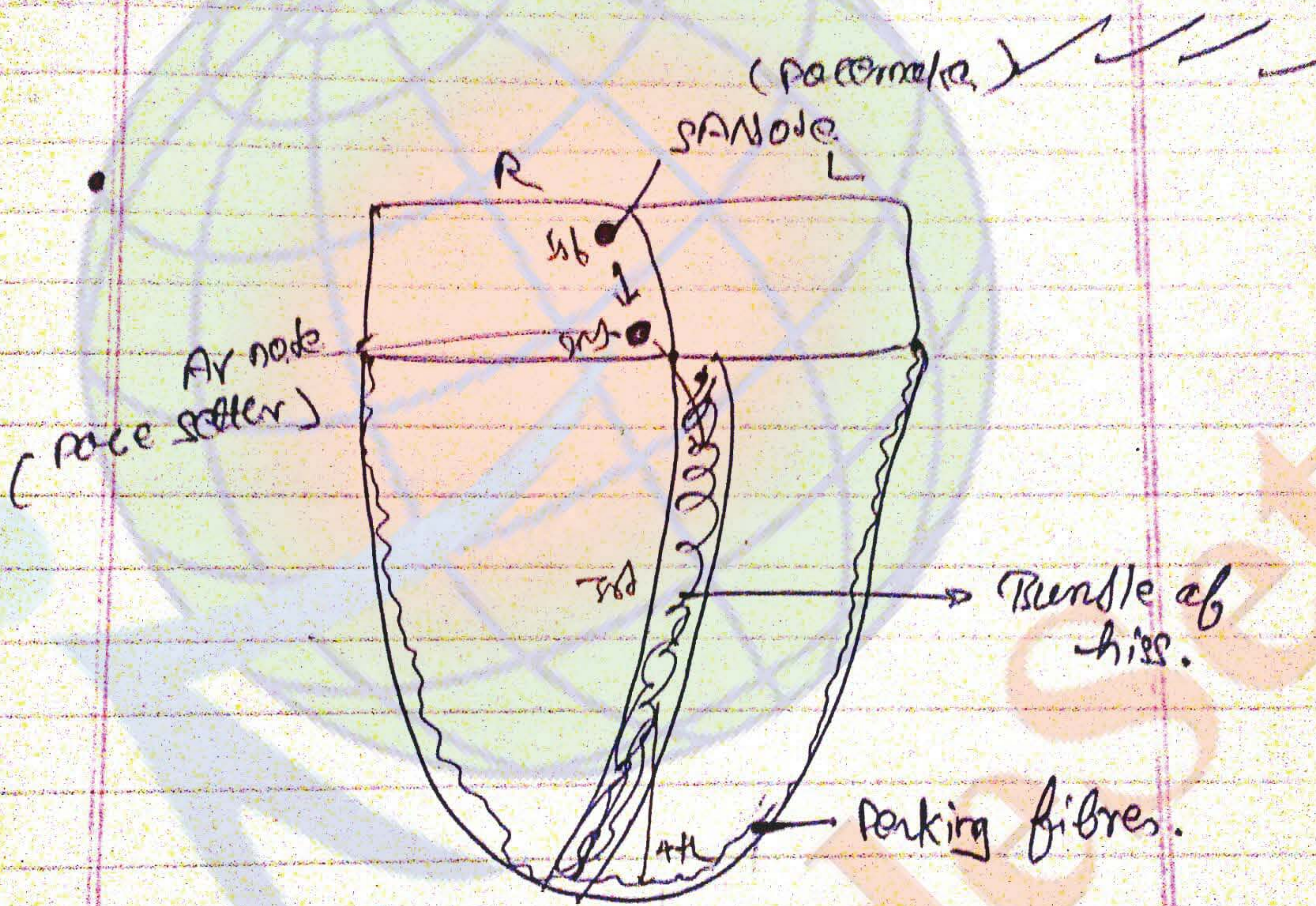
• elephant heart beat = 25/min

• Heart of a normal person
pumps about 70 ml of blood
per beat.

$$72 \times 70 = 5040 \text{ ml} = 5.04 \text{ litre.}$$

⇒ Nervous system & Endocrine system

- शरीर की बाह्य 1:70 min तक को नियंत्रित करती है यह द्वारा Receptor करता है।
एक science इसे नहीं मानती है।



There are 4 type of neural tissue or nervous tissue

- (i) SA node - Pacemaker
- (ii) AV node - pace setter
- (iii) Bundle of His.
- (iv) Purkinje fibre

हृदय है - "She is the Pacemaker of my life"

Human disease

1) Congenital disease - disease from birth.

- 2) Haemophilia
- Colour blindness
- Sickle cell anemia
- Down syndrome
- Criminal syndrome

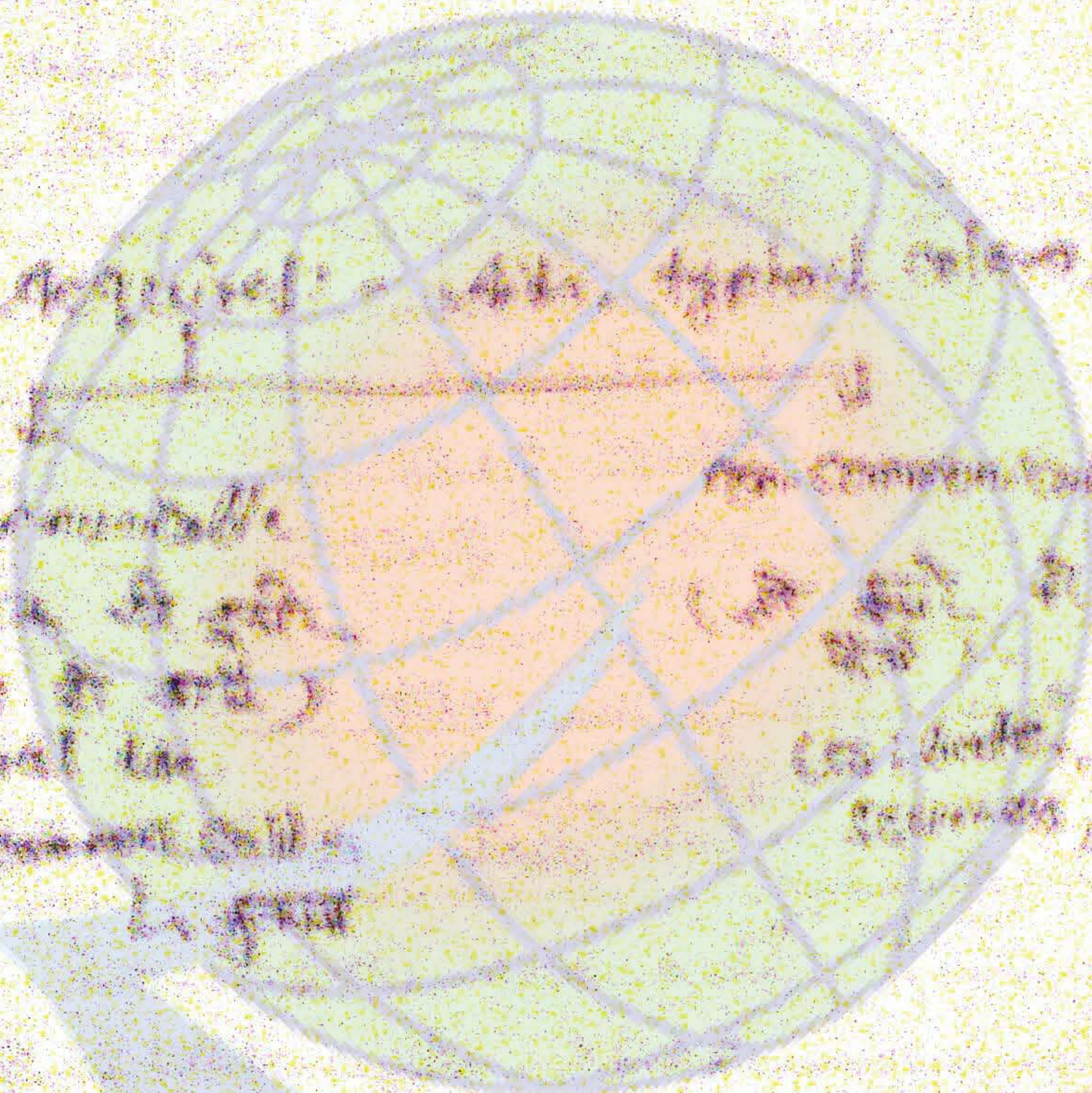
3) • EU-genics - जीने के पढ़ने।

It is the improvement of human race by laws of genetics

• Euthenics :- अच्छा शिक्षण, अच्छा पर्यावरण
discipline, ~~अच्छे~~ morals, ethics
→ अच्छे सुखी goal सेना अर्थात्

• Euphenics - It is the imp. of human race which includes genetics engineering
~~अच्छे सुखी~~ ~~अच्छे सुखी~~ ~~अच्छे सुखी~~

(2) ... with a ...
...
...
...



(3) ... typical ...

...
...
...
...
...

...
...
...
...
...

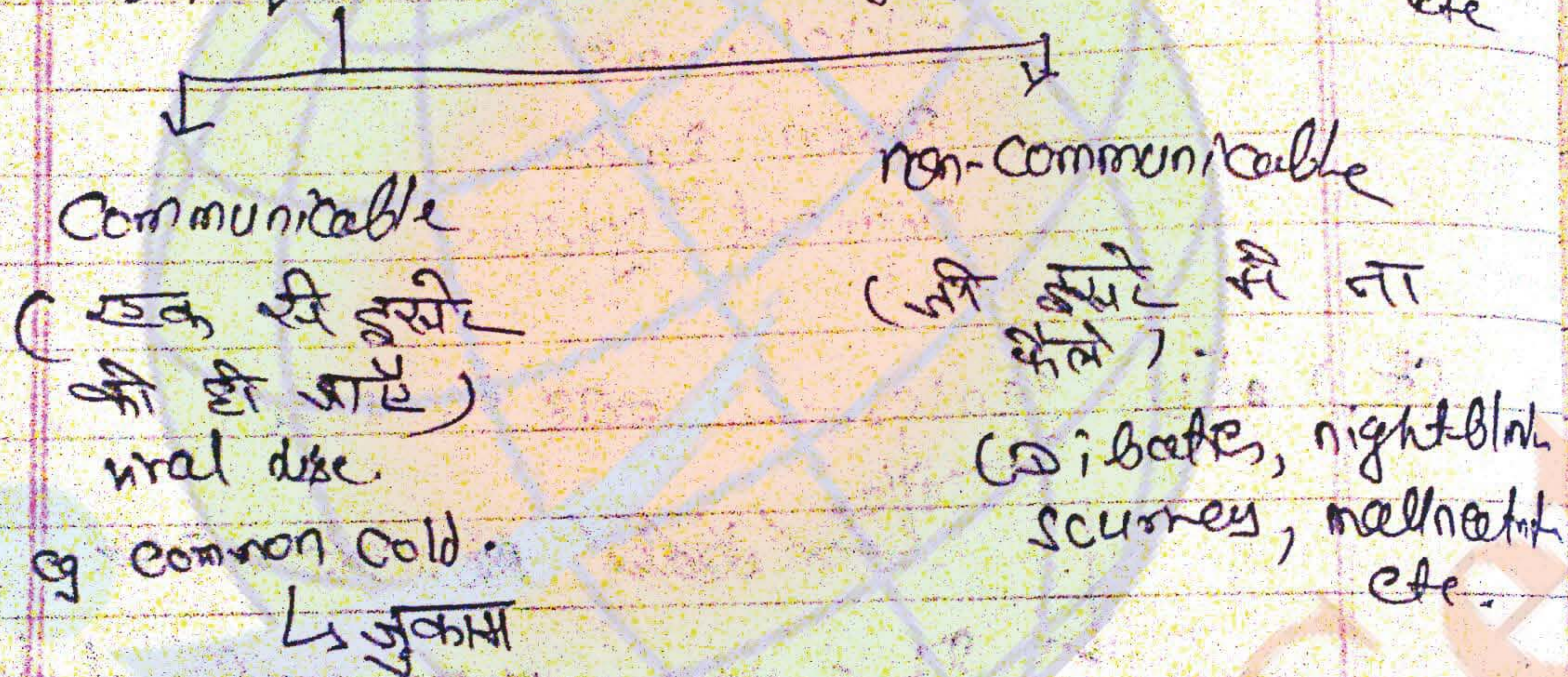
(4) ...

(5) ...

...
...
...
...
...

(2) Dr. P. K. Sethi = in rare cases foot
 ↓
 Probe ligaments
 लगा हुआ है।

2.) Acquires: - AIDS, typhoid, colera, polio, etc



(3) Communicable disease:-

- (i) Viral disease
 - (i) Polio
 - (ii) Rabies
 - (iii) Hepatitis
 - (iv) chicken pox
 - (v) Chikungunya
 - (vi) Dengue fever
 - (vii) Common cold

foot

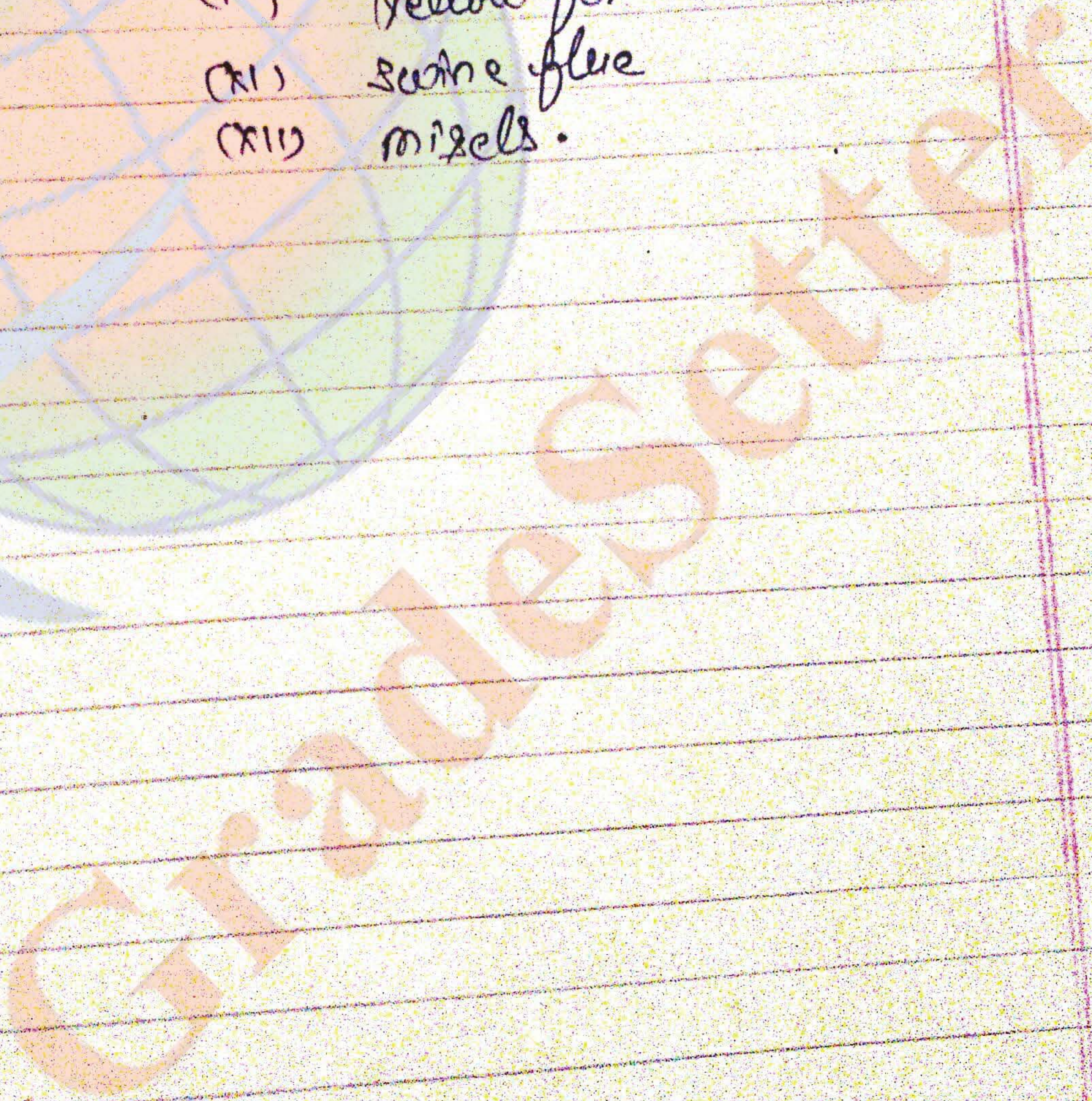
- (vii) small pox
- (viii) mumps
- (ix) chicken pox
- (x) yellow fever
- (xi) scarlet fever
- (xii) measles.

polio,
etc

measles

etc

night blindness
malnutrition
etc.



(7) Immunity :-

The resistance to the disease is called immunity.

The science dealing with immunity is called immunology.

There are two types of immunity -

(1) Natural immunity

~~is~~ inherited by an individual from ~~the~~ parents to the next generation

for eg:-

Human beings have a natural immunity for a disease distemper if it is a fatal disease of ~~good~~ dog.

(ii) Acquired immunity

The immunity that an individual acquires after birth

~~is~~ ~~there~~ It is of two types

(1) Active immunity :-

It is developed when the persons ~~oneself~~ produce antibodies, in response to a disease or vaccination
eg Small pox

- It is long lasting and has no side effects

eg - A ~~who~~ person who has recovered from measles, mumps, active immunity
 who has small pox, acquire

(ii) Passive immunity

Antibodies are produced in some other person in response to a given antigen, then these antibodies are injected into the human body at the time of need

for eg,

The person infected with rabies and snake ~~was~~ ~~know~~ venom has given antibodies so that they could survive,

It is not long lasting and may cause side effects.

(8) Lymphoid organs

(i) These organs where the maturation of lymphocytes (type of white blood cells, army of body) takes place.

(ii) Lymphocytes are the cells of immune system in the body.

and they are of two types:-

(i) T-cells

(ii) B-cells

(iii) Primary lymphoid organs are bone marrow and thymus.

(iv) Secondary lymphoid organs are spleen, tonsils, adenoids, vermiform appendix, lymph nodes.

(v) Three lines of defence.

- 1st line of defence in skin, tears, interferons for viral infections, mucus membrane

- 2nd line of defence white blood cells, inflammation, and fever

— 3rd types of defence is the immune system of the body.

Note: —

Antibodies are always protein in nature whereas

Antigens may be proteins, carbohydrate or lipids or anything.

Also

- Antibodies are always response in antigens.

(9) Vaccination —

It was Edward Jenner in 1796,

He prepared a vaccine for

Small pox,

Louis Pasteur develop vaccine for anthrax, rabies and chicken cholera.

There are three type of vaccine —

— 1st generation vaccine —

These are produced by

Conventional method of small pox and polio.

→ 2nd gen. vaccine -

They are produced by genetic engg of Hepatitis-B and genital herpes.

→ 3rd gen. vaccine -

They are under develop like eg. malaria, aids, leprosy etc. ~~leprosy~~ etc

Notes - Biotechnology means genetic engg. ✓

(10) JEMVAC,

is the 1st vaccine manufacture in India against Japanese encephalitis

until now,

The country has been importing vaccine from china.

• Japanese encephalitis is a

DATE
PAGE

DATE
PAGE

Start
26-5-15

mosquito born viral infection
it is very much in utter Pradesh.

- Universal immunization Program was launched by W.H.O in 1974.
and
By gov. of india in 1985.

Notes.

→ The no. of helper - T-cells decreases remarkably in aids. [2]

→ ELISA - Enzyme linked immunosorbent assay. [3]

[3]

26-5-15

Animal Husbandry

(1) ~~Animal~~ more than the 75% of world life stock population is India and China, but they contribute only 25% of the world produce

world is
 70% प्रायः India और China में है
 पर
 केवल 25% उत्पादन करते हैं

(2) Dr. Verghese Kurien - father of white revolution in India

Note: -

The term "operation flood" is for milk.

(3)

| | Doubles tones milk (Yellow) | Tones milk (Blue) | Standardized milk (Green) | Full cream milk (Orange) | Shubham milk (Purple) |
|-----------------|-----------------------------|-------------------|---------------------------|--------------------------|-----------------------|
| Energy | 48 kilo calorie | 60 | 74 | 90 ✓ | 81 |
| Carbohydrate | 5 grams | 4.7 grams | 4.4 gram | 5 grams | 5 grams |
| Protein content | 3.5 grams | 3.3 grams | 3.3 grams | 3.5 gram | 3.5 gram |

| | 1.5 gram | 3.1 gram | 4.6 gram | 6.2 gram | 5.2 grams |
|-----------|---------------|---------------|---------------|---------------|---------------|
| fat | 1.5 gram | 3.1 gram | 4.6 gram | 6.2 gram | 5.2 grams |
| minerals | 0.7 gram | 0.7 gram | 0.7 gram | 0.7 grams | 0.7 grams |
| Calcium | 124 mili gram | 120 mili gram | 120 mili gram | 124 mili gram | 124 mili gram |
| Vitamin A | 18 ug | 33 ug | 53 ug | 71 ug | 59 ug |

(4) Politeny farming

- egg revolution is known as silver revolution

- Ranikhet (New caeter disease) disease

viral disease

- Perosis - is due to the deficiency of ~~magnese~~ manganese in diet

⑤ Bird flu :-

It is a viral disease
~~caused~~ cause by
"H5N1"

- The separation of sick (बिमार) birds from the healthy birds is called culling.

⑥ Bee keeping :-

↳ It is called
"apiculture"

↳ rearing of
honey bees.

↳ waggle dance - special
dance of honey bees

It was discovered by
prof. Karl von Frisch
He got the Nobel Prize
in 1973.

That is most for comm. of
bees

Beggs Jones

It was discovered by ~~old~~
Karron von Frish, who got Nobel
prize in medicine in 1947.

The place where the honey bees
are kept ~~are~~ is called ~~apiary~~
apiary or anam.

Honeybees ~~are~~ the best insect
pollinators of many crops.

(7) Green Revolution:-

India is an agriculture country.

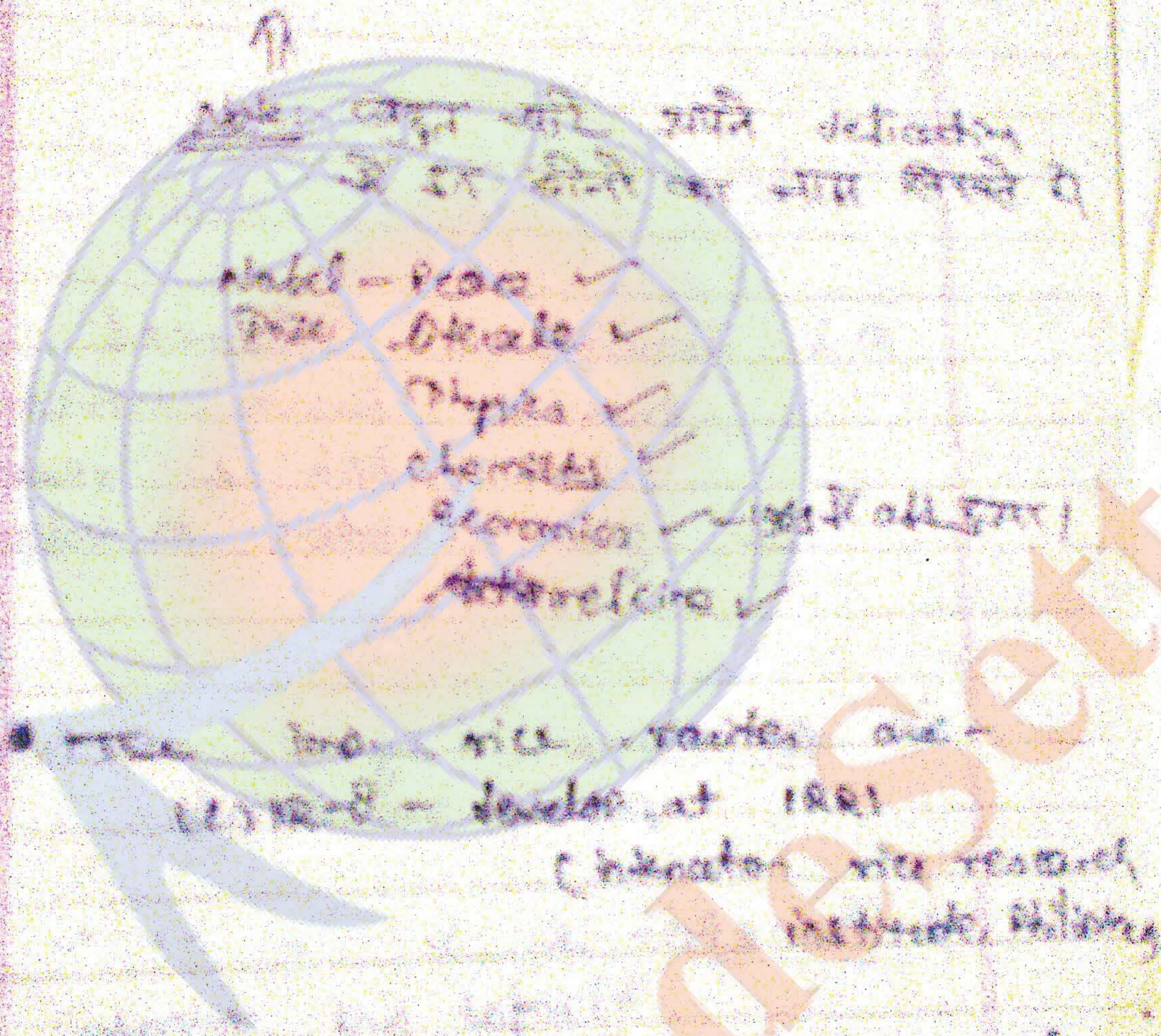
Agriculture contribute about 53% of the
total G.D.P, and gives employment
to 62% of the population.

Green revolution starts with wheat
and rice in 1960.

Norman E. Borlaug is called the

Outline of green revolution.

The Green Revolution is called the father of green revolution in India.



(i) Tabular method - review of stars

(ii) para and Astora -

(iii) see - see - see - get

• wheat varieties -

(i) - Lerma rogo - 63 and 64 -

(ii) - Sonalika and Kalyan Sona.

M. S. Swaminathan produced
Sharbati Sonora variety of
wheat, which is responsible
for green revolution in India.

⇒ Pomato - is a hybrid variety of
potato and tomato.

⇒ Bomato - is " " " "
Brinjal and tomato

⇒ Plant A a

(8) Plants and human welfare -

(1) Food Plants:-

(a) Cereals:- The cereals are rice, wheat, maize, barley, coarbs, rice,

• Barley (जई) was the 1st cereals to be domesticated by man.

• USA leads in the production of wheat.

• Sake - Is the alcoholic beverage of Japan, and it is obtained from rice.

(b) Millets:- Small size grains are called millets.

ज्वार (Pearl millet):

राजी (finger millet)

↳ It is suitable for dry farming.

(c) Pseudo cereals:-

Buck wheat (कीरुआ)

Note:- Grass family - Gramineae (Poaceae)

(d) Pulses - very rich in protein.
एकमात्र हीन contains the maximum

protein.
(So milk is very nutritious)

• gram (chick Pea)

• Arhar (Pigeon Pea)

(e) Nut's

coconut (काजू)

↳ also called

because a large no of
useful nutrient

It is also called as tree
of life

~~the most~~

(f) Vegetables -

↳ The root vegetables are -

sweet potato (शकरकंद)

Japirica (शकरकंद)

शहरी एमई

Yams (Khamalu)

↳ actual name -

Dioscorea

ingredient of

fertility

(2) Wood

(3) F

best root of sugar
 beat root,
 radish,
 turnip (खजूरगम)
 carrot (गाजर)

• Steam vegetables are -
 Potato

Imp → Onion
 Garlic (लहसुन)
 ↳ They reduce the
 cholesterol level of
 body
 ↳ The pungent smell of onion is
 due to the presence of
 "allyl sulphide"

(2) Wood: -

Note: Hockey sticks are made from
~~the~~ malbery wood (सहजरा)
 and cricket bat are made
 from Salix (white willow)

• The most durable wood स्याल wood

(3) Fiber's: -

(1) cotton - It is the oldest fiber of
 the world.

The fibres of the cotton arise from seed coat.

(11) Jute (पटसन) - India is the largest export of jute. It is spoiled (खराब) by moisture.

(4) Tanning - They are tonics (फाउन्टेन पेन)

Blue black ink is equal gallic acid + ferrous sulphate + little colouring matter.

(5) Henna: - (Conditioner $\frac{33}{2}$)

~~अम्ल~~

It is the product of the leaves.

(6) Saffron: - It is obtained from flower's.

(6) Tobacco: - It is obtained from leaves.

Tobacco contains Nicotina

Drugs of Opium

(1) Thapsig - It is obtained from young trees have not flowering part of both male and female tree bark.

(2) Opium - It is obtained from the fresh flowering part of the plant. It is generally smooth, orange color. It is also called resin in America.

(3) Opium - It is obtained from the fruits of poppy plant.

It contains morphine and codeine.

Codeine mainly it is a cough suppressant, analgesic, antitussive & sedative.

• Smack is obtained from opium.

• Heroin is obtained from opium.



(4) Phang :- It is obtained from young dried leaves and flowering ~~shoots~~ shoots of both male and female ~~the~~ hemp plants.

(8) शिवा - It is obtained from the female flowering stem of the plant. It is generally smooth, and charis. It is also called शक्ति in America.

(9) Opium - It is obtained from the fruits of Joki plant.

It contains morphine and codeine

↓
Cough suppressant
शक्ति दाना
शक्ति है
mainly it is analgesic, pain killer & (शक्ति)

↓
शक्ति - It is chronic & contribut

• Smoke is obtained from opium.

• Heroin is obtained from opium.

Date

Page

(10) Non-alcoholic beverage 7
tea, coffee and coke etc.

(11) Black Pepper (काली मिर्च)
King of Spice,

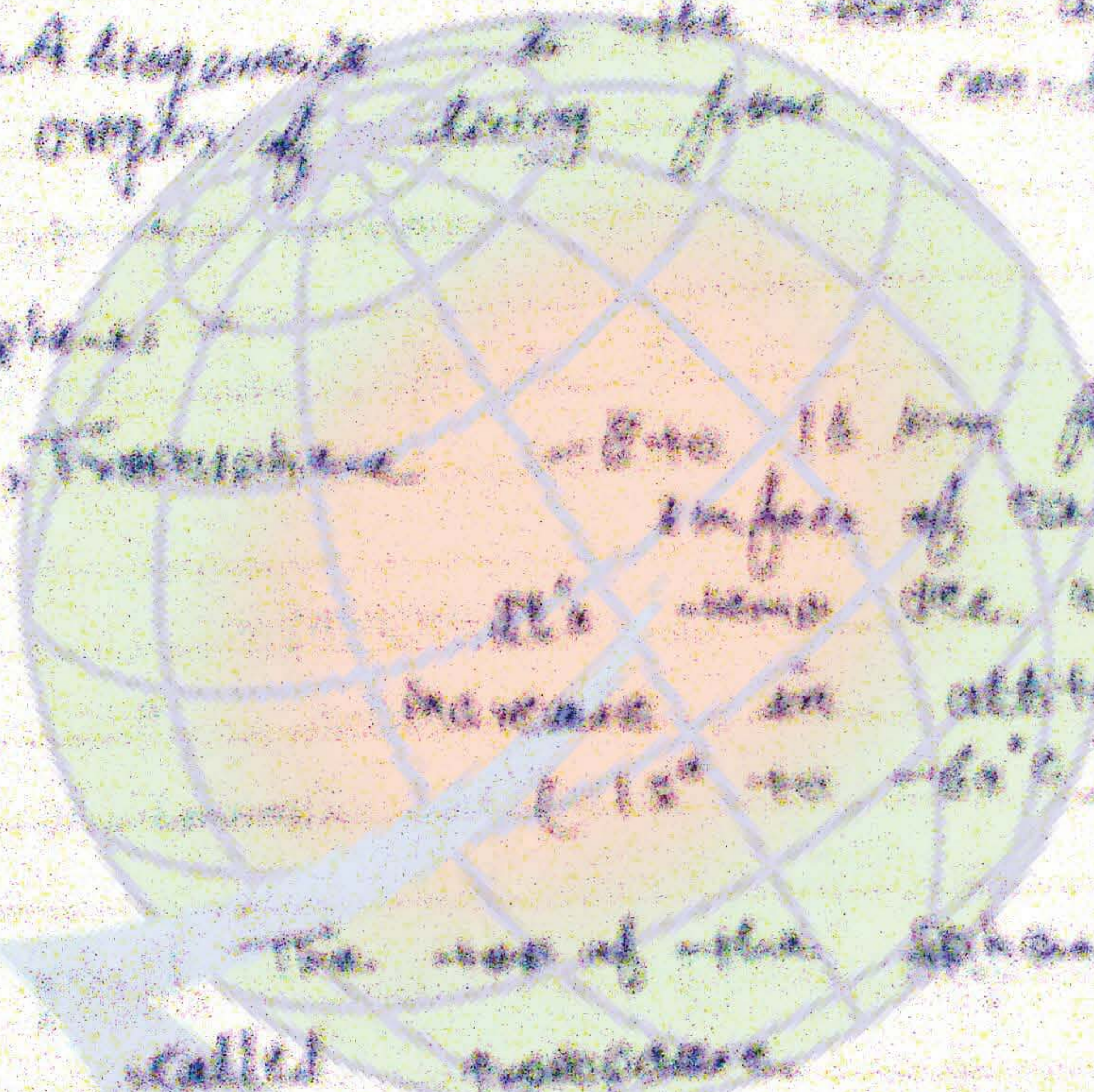
(12) White Pepper (सफ़ेद मिर्च)
Queen of Spice,

(1) The modern theories of origin of life are based on the origin of life from non-living matter.

(2) A hypothesis is a statement or an idea that is proposed for testing.

(3) The origin of life is a mystery.

(4) The origin of life is a mystery.



The temperature of the earth increases with increase in altitude (15°C per 1000m).

The gas of the atmosphere is also called atmosphere.

The atmosphere contains life.

It is not the same as the air we breathe.

It is a mixture of gases: N₂, O₂, CO₂, etc.

N₂ - 78.1%

O₂ - 21.0%

CO₂ - 0.04%

Ar - 0.93%

Ne - 0.0018%

He - 0.0005%

(3) ~~the~~ modern theory of origin of life we have originated from non-living thing.

(4) Abiogenesis is the term used origin of living from non-living

(4) spheres -

(a) Troposphere - 0 to 16 km from surface of earth.
It's temp dec. with increase in altitude.
(15° to -60°C)

The top of the sphere is also called tropopause.

only troposphere contains life.

N₂ and O₂ are the most abundant gases 78.08% N₂ and 20.9% O₂

• Its constitution.

N₂ - 78.08%

O₂ - 20.94%

Argon - 0.93%

CO₂ - 0.03%

Neon, helium, ozone

Bron, and methane

(ii) stratosphere

(extends 50 km from the surface of earth

- Temp increases with height
- 60°C to -2°C

due to the warming effect of ozone.

- It contains a ozone layer and its called ozonosphere.

- It filters ultraviolet rays.

(iii) mesosphere - 80 km from the surface of earth.

- The temp. decreases

- The upper part of the mesosphere is called meso

(iv) Thermosphere - (500 km)

Temp. increases upto 1200°C

the outer part of atmosphere, which extends upto 600 km,

this is one produces

(5) Hydrosphere -

water content of the earth

(6) Lithosphere -

It comprises of rocks, minerals and soils

(7) Biosphere

It contains all the living organisms plants and animals.

(8) Habitat and ecological niche

Habitat is the place where the organisms live and

ecological niche is its profession.

Habitat of a species does not change and species change may change its niche according to change and season.

↳ The larva of frog of tadpole it is amphibious

whereas

(9)

(10)

(11)

(12)

(9) Eco type :-

When a population attains a genetically distinct state, it is called ecotype.

(10) ecotone -

It is a transitional zone b/w two ecological communities.

eg. A zone b/w a forest and grassland.

(11) Fecundity -

It refers to the capacity to reproduce.

reproductive capacity of an individual

fecundity is controlled by genes and environmental conditions.

(12) Plant types :-

(1) Anthophytes :-

It is a flowering plant.

(2) Chlorophytes

are found in waste land

(iii) ^{low temp} cryophytes
which grow on snow

(iv) Cryptophyte
grow under the surface of soil.

(v) Epiphytes -
They grow on other plants only
for shelter

(vi) Eremophytes -
They grow in deserts

(vii) Halophytes -
They grow in salty condition

(viii) Heliophytes -
They are sun loving plants.

(ix) Hydrophytes -

(x) Hydrophytes -
grow in moist conditions

(xi) Lithophyte
grow on rocks

(xii) Mesophytes -
optimum condition

(xiii) on

(xiv) P

(x)

(x)

1m

(13)

(iii) ^{low temp} cryophytes
which grow on snow

(iv) Cryptophyte
grow under the surface of soil.

(v) Epiphytes -
They grow on other plants only
for shelter

(vi) Xerophytes -
They grow in deserts

(vii) Halophytes -
They grow in salty condition

(viii) Heliophytes -
They are sun loving plants.

(ix) Hydrophytes -

(x) Hydrophytes -
grow in moist conditions

(xi) Lithophytes
grow on rocks

(xii) Mesophytes
optimum conditions

(xiii) ...

(xiv) ...

(xv) ...

(xvi) ...

(xvii) ...

(13)

(xiii) Oxyclophyte -
grow in humus soil.

(xiv) Psammophytes -
they grow in ~~rock~~ sandy soil

(xv) Psychrophyte
grow in cold soil

(xvi) Saprophytes.
grow on dead organic matter

Imp
(xvii) Sciophytes -
they are said living plants
(जगत् जीवित वस्तु)

(xviii) Xerophyte
grow on dry condition

(13) Abiotic factors (which affect growth)

(a) Temperature

(i) Eurythermal

(ii) Mesothermal

(iii) Mikothermal

(iv) ~~Microthermal~~

(v) ~~Microthermal~~

(a) Eurythermal:-
 They can tolerate a wide range of temp
 eg birds and mammals;

(b) Stenothermal.
 They can tolerate in narrow range of temp
 eg amphibians, lizards

(c) Poikilothermal
 They can change the temp of the body according to the environment.
 They are also called cold-blooded animals.
 all animals except birds and mammals

(d) Homeothermal.
 They can not change of the temp of body
 warm blooded animal

⇒ There are several relations with temp variation

(i) Bergmann's rule
 Birds are larger in area

as compare to that of animals in the warmer area.

(ii) Rensch's rule:-

Birds of colder areas have narrow wings while those of warmer area have broader wings.

(iii) Jordan's rule:-

Fish size and no. of vertebrae is more in the colder areas as compare to warmer area.

(iv) Allen's rule:-

Animals of colder areas have shorter extremities (tail, ears and feet) as compare to that of warmer area.

(v) Gloger's rule:-

The animals of the warmer area has more melanin content.

Animals of colder areas compare to those of colder area.

ecology/edaphology

Soil

(1.3) Soil waters :

(i) Hydroscopic water -
 It is the water held tightly
 by the particles
 and the particles are not available to
 plants

(ii) Gravitational water
 The water goes deep of the soil
 due to gravity,
 It is also not available to plants

(iii) Capillary water -
 It is the water that is present
 in the spaces of the soil, and
 these spaces act as capillaries

(The water can be absorbed by
 plants)

(iv) Combined water -

The water that gets combined
 to chemical

(It is also not available to
 plants)

(v) Water vapor
 is in the form of

(15) Soil waters.

(i) Hygroscopic water -

It is the water held tightly by the particle and this water is not available to plants.

(ii) Gravitational water -

The water goes deep of the soil due to gravity. It is also not available to plants.

(iii) Capillary water -

It is the water that is present in the spaces of the soil, and these spaces act as capillaries.

(The water can be absorbed by plants)

(iv) Combined water -

The water that gets combined to chemical.

(It is also not available to plants)

(v)

Water is in the form of...

(16) Holard -

The water that is chemically combined with the plant and is not available to plants.

So,

He

fields

(17)

(18)

Water

(19)

The soil shows...

(16) Holard -
The total amount of water that is present in the soil

chresard -
The water available to the plant

echard -
The water not available to the plant

So,

$$\text{Holard} = \text{chresard} + \text{echard}$$

$$(17) \text{ field capacity} = \text{holard} - \text{gravitational water}$$

$$(18) \text{ water holding capacity} = \text{field capacity} - \text{hygroscopic water}$$

(19) The quantity of water left in the soil when plants growing in it show signs of permanent wilting is called wilting coefficient.

$$\text{wilting coeff} = \frac{\text{water holding capacity}}{2.5}$$

5

Date _____
Page _____

(20) PF → denotes soil moisture

PF = 0 → It means soil is fully saturated

PF = 4.2 → It is permanent wilting percentage.

Amount of water in the soil is measured with the help of an instrument called "Tensiometer"

(21) ~~PH~~ pH of a fertile soil is 6 to 7.

(22) • Calcicoles are the plants which grow in high pH.

• Calcifuges are the plants that grow in low pH's

(23) • 1921 is the year after

(24) ~~...~~

(1) Senses

(a) In ~~1980~~ the world in 2011 7 billion

(b) At 5 world

(c) Pop. is and acc.

(d) &

(e)

(1) Senses 2011 :-

(a) In ~~1700~~ 1700 AD, population of the world was 0.6 billion, in 2011 AD, it ~~arrows~~ / increase to 7 billion.

(b) 5 most populous country of the world 2011,

(i) China

(ii) India

(iii) USA

(iv) Indonesia

(v) Brazil

(c) Population of India in 1901, is 23.8 Crores,

and

acc. to 2011 it is around 121 Crores.

(d) Sex ratio (female per thousand male)

1901 \rightarrow 942

2001 \rightarrow 933

2011 \rightarrow 940.27

(e) Density of Population

1901 \rightarrow 77 person / km²

2001 \rightarrow 324 " "

2011 \rightarrow 382 " "

(d) decable growth: - (2001 - 2011)
It is 14.64%

(e) most populous state -
(Uttar Pradesh)

(f) least populous state -
Sikkim

(g) Kerala has the highest sex ratio \rightarrow 1084

(h) Haryana has the least sex ratio \rightarrow 874

(Among U.P., Lakshadweep in 1946)
Jammu and Jio \rightarrow 618

(k) highest literacy rate - Kerala ✓
lowest " " - Bihar

(l) state with highest density of population - Bihar (1102)
People in 1 km^2

(m) " " lowest " "
 \rightarrow $\frac{17}{\text{km}^2}$ (17 Person)

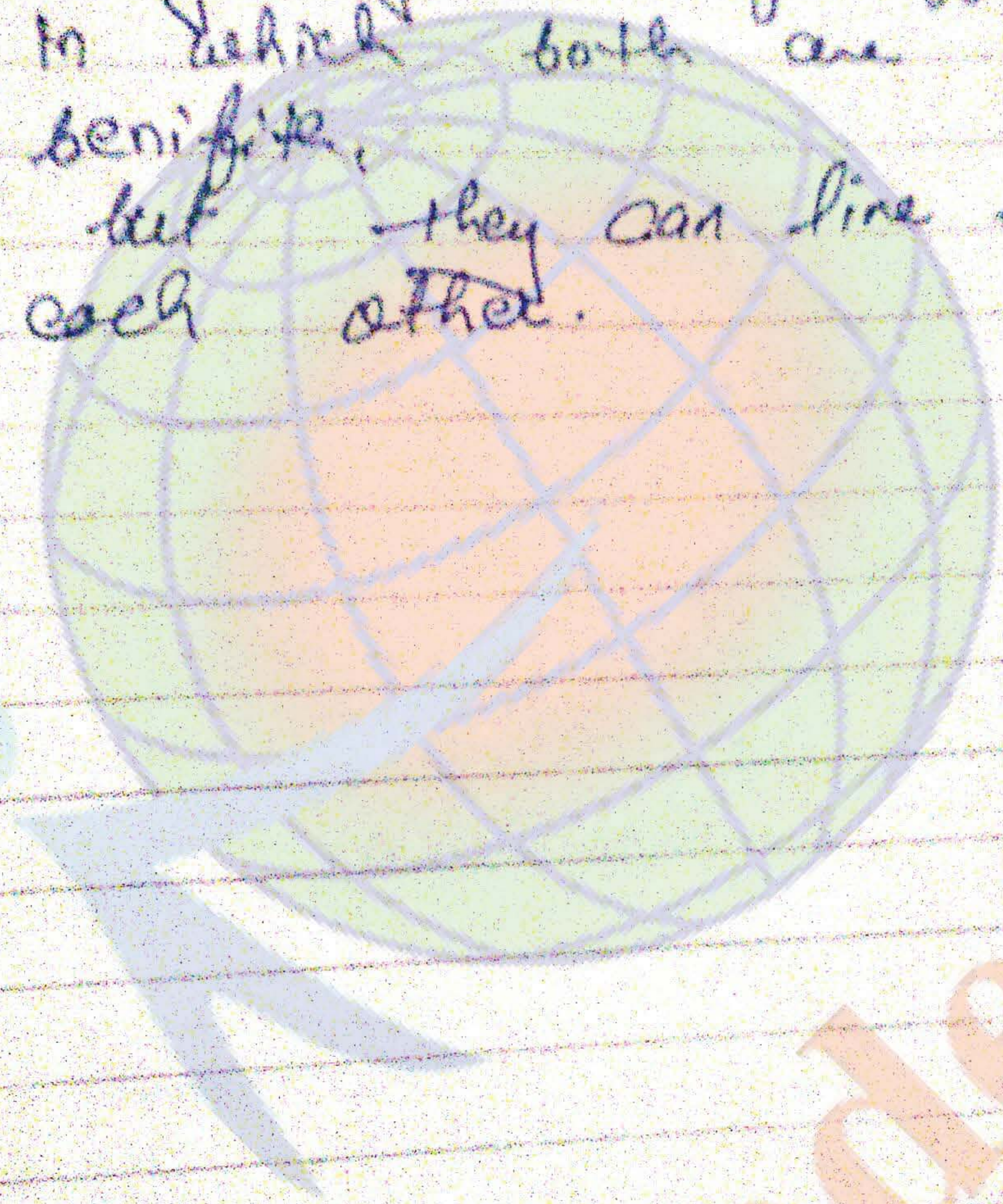
(8) Proto -
It is living in well benefited but each

(8) Proto-cooperation -

It is an interaction b/w two living organisms of diff species in which both are mutually beneficial, but they can live without each other.

(b) Proto-Co operation.

It is an interaction b/w two living organism of diff species, in which both are mutually benefite, but they can live without each other.



GradeSetter

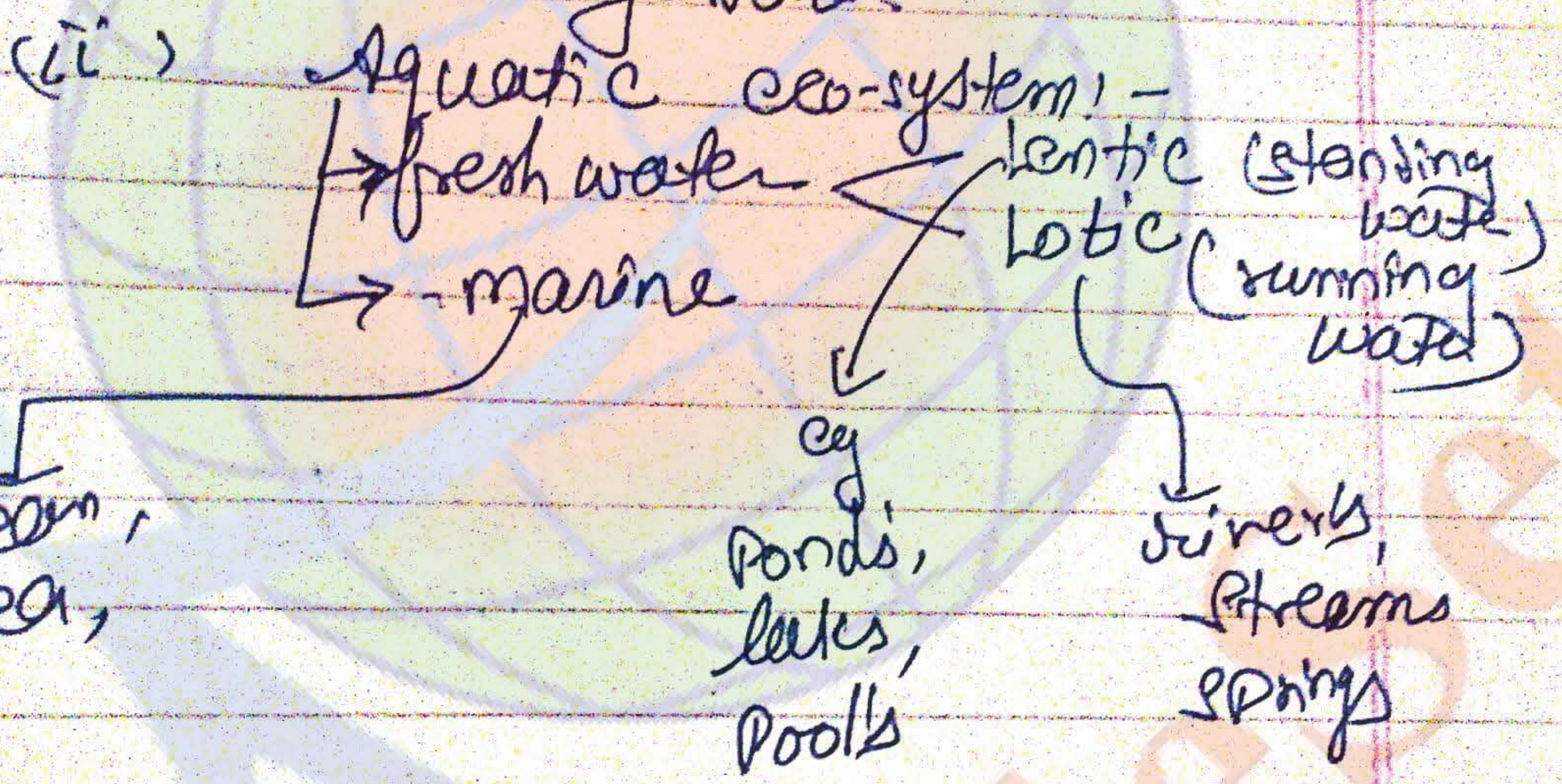
(1) An Eco-system is an association of the living organism with the non-living environment.

The term "Eco-system" was given by "Sir A. G. Tansley" in 1931.

(2)

Types: -

(i) Terrestrial or land ecosystem
 eg forest, desert's, grassland, gardens.



• ~~The~~ limnology - study of -

(i) Natural ecosystem: -
 eg. pond, lake, forest

(ii) Artificial ecosystem
 eg. aquarium, agriculture, gardens.

Bio-diversity

According to International Union of Conservation of Nature and Natural Resources, 2004, the total no. of known plant and animal species is about 1.5 million.

more than 70% of all the species are animals, while plants account for only 22%.

Among the animals insects are the ~~more~~ most numerous (70%).

India has only 2.4% of the world area and 8.1% global species diversity.

The major cause of loss of biodiversity are overpopulation, urbanization and industrialization.

(2) Conservation of biodiversity is of two types -

(i) In situ Conservation

This is the ~~process~~ protection of indigenous animals of plant's and species.

It includes - Biosphere reserves.
- National parks
- Wild life Centares
- hotspots.
- ~~Sacred~~ sacred grove.

• Ashoka was the 1st ruler in the history, to order establishment of wild life Centares.

(*) • Bio-sphere reserves :-

The concept of Biosphere reserve was initiated under (man and bio-sphere program) of UNESCO.

It was started in India in 1986.

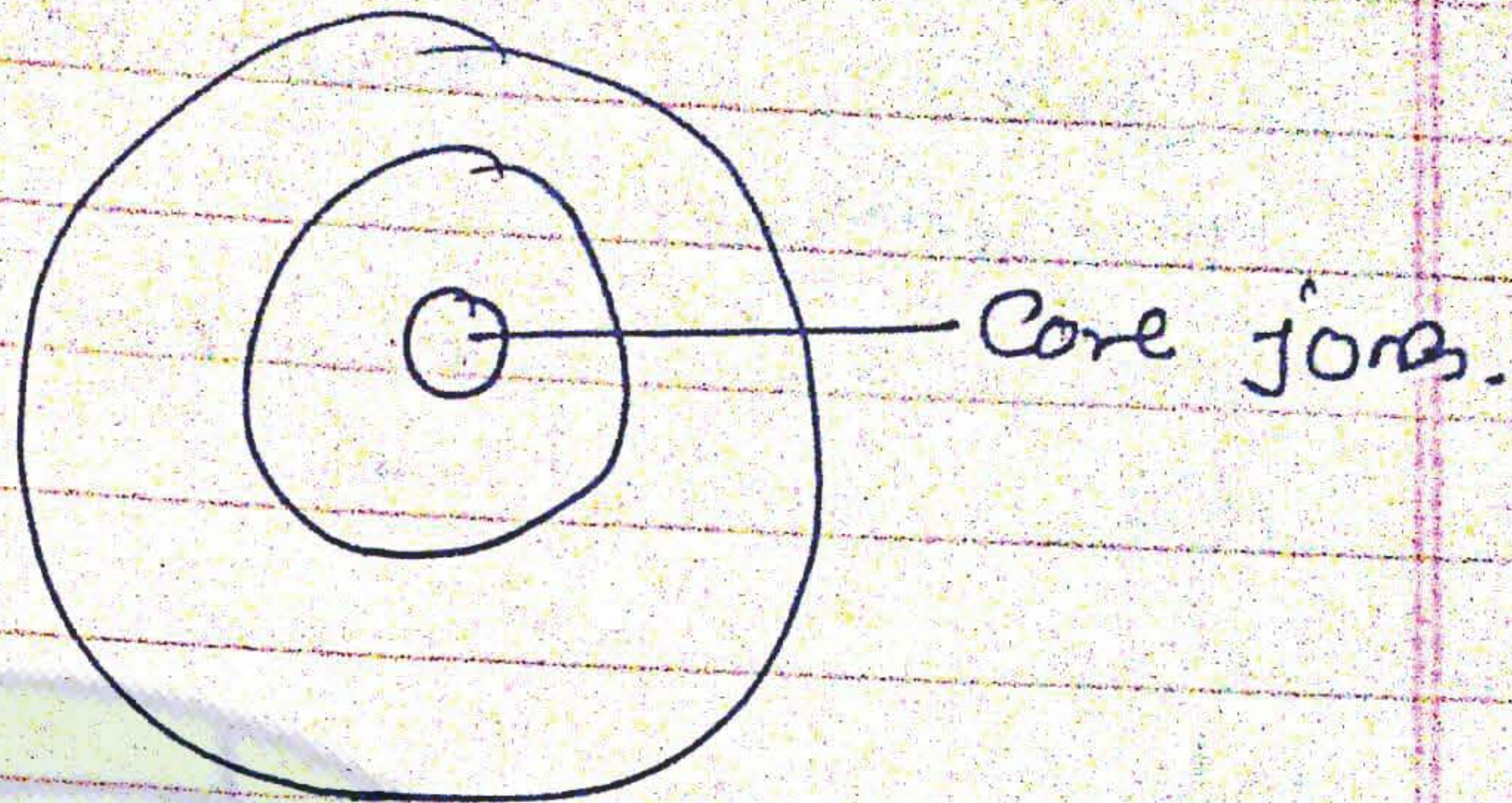
• The 1st bio-sphere reserve was established in 1986 and it is called Nilgiri bio-sphere reserve.

• A bio-sphere reserve in Andhra Pradesh (Nallabandi) is under M/o J. Jones :-

Only one is all

(i) Core zone

(only employ
is allowed)



(ii) Buffer zone

limits human activity
is permitted.

(iii) Manipulation zone:-

Several human activities can
occur.

There are total 18 bio-sphere
reserves in India.

A bio-sphere reserve
will population, life style of
the tribals, and genetic resources
of domesticated plants and
animals.

The latest bio-sphere reserve
in India is in m.p.

max. area is occupied by
grate rain of kach,
bio-sphere

It was established in 2008, and
it's area is 12454 sq km

and

minimum area is occupied by
Cohipana.

543 sq km.

(5) Hot spots:

They are region of rich
bio-diversity.

They are those region
which are declared as
sensitive, due to direct and
indirect human activities

There are 34 hot spots in
the world and 3 of them
in India -

(i) western ghats in Srilanka

(ii) Indo-burma (north east
India)

(iii) Himalaya

- hot spot covers less than 2% of the total land area, but contain 44% of the species.
- They will reduce extinction by about 30%, if they are properly conserved.

(iii) National Parks

Century

| | |
|---|---|
| (i) It is the conservation of both flora and fauna. | (i) It is the conservation of only fauna (animal) |
| (ii) Plantation, cultivation, grading are not permitted | (ii) they are permitted |
| (iii) Private ownership is not allowed | (iii) private ownership is allowed |
| (iv) forest products are not harvested | (iv) forest products are harvested |
| (v) boundaries are well demarcated | (v) boundaries are not well demarcated. |

As of April
2014, there were
104 national
parks in India
occupy, nearly
1.2% of the
total geographical
area.

The 1st national
park in the world

was Yellowstone national park, it
was founded in 1872 in USA.

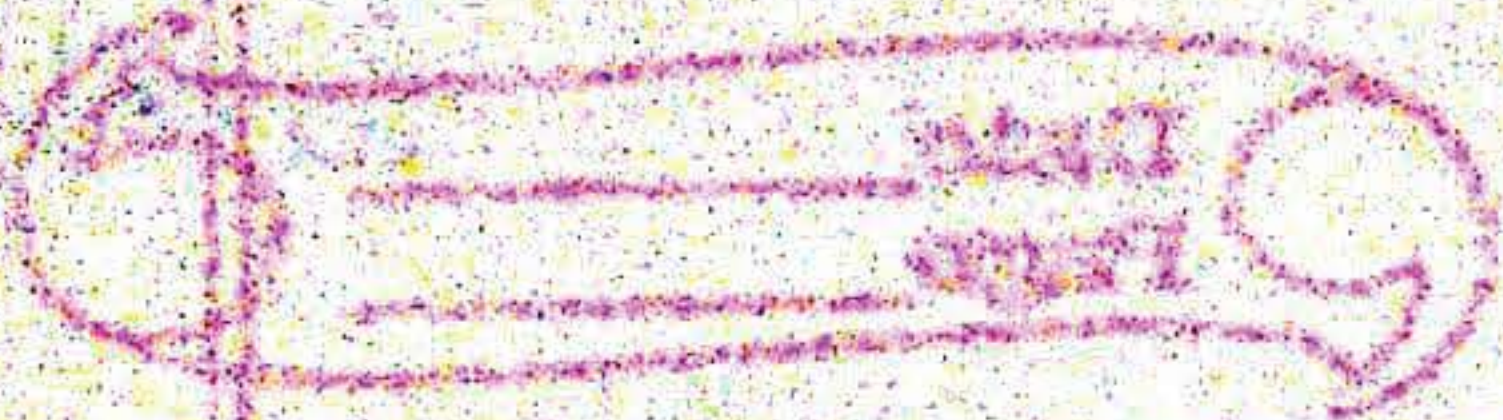
The 1st national park of India
is "Hailey national park"
now called Jim Corbett national
park, it is of 1936.

India has 551 wild life
centres occupying nearly 3.6%
of the total geographical area.

(iv) Sacred groves.

They are the forest patches
around place of worship.
They are held in high

07-06-90



Stm by tribal community.

There is no human intervention.

07-06-2015

National Parks and Sanctuaries in India



National Parks and Sanctuaries in India

Date
Page

| Name | Location | Location | Established | Important fauna |
|--|-----------------|----------|-------------|---|
| 1.) Bandipur national Park | Karnataka | | 1974 | Indian elephant |
| 2.) Chilka was Bird Sanctuary | Orissa (Odisha) | | 1984 | Flamingos |
| 3.) Corbett national Park | Uttarakhand | | 1936 | Tiger, elephant, bear, Panther's |
| 4.) Dachigam national Park | J&K | | 1981 | Hangul (called Kashmir stag) |
| 5.) Desert national Park | Rajasthan | | 1980 | Great Indian Bustard, Black Buck |
| 6.) Gir national Park | Uttar Pradesh | | 1977 | Barasingha, Rhesus monkey, |
| 7.) Gir forest national Park | Gujarat | | 1965 | tiger, leopard, sambar, Asiatic lion, |
| 8.) Sagar Mahal National Park | Gujarat | | 1954 | tiger, leopard, |
| 9.) Kanha National Park | Madhya Pradesh | | 1955 | tigers, Barasingha , Black Bucks, Panthers etc |
| 10.) Kaziranga national Park | Assam | | 1951 | It is UNESCO world heritage site |
| 11.) Keoladeo National Park | Uttarakhand | | 1972 | musk deer, |
| 12.) Keibul Lamajong national Park | Assam | | 1977 | It is the only floating park in the world. |

National Parks and Sanctuaries in India

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| (6) Grishma national Park | Uttar Pradesh | 1977 | Barasingha, Rhesus monkey |
| (7) Gir forest national Park | Gujarat | 1965 | Tiger, leopard, sambar, Asiatic lion |
| (8) झरारी बाग नेशनल पार्क | झारखंड | 1954 | Tiger, leopard |
| (9) Kanha National Park | Madhya Pradesh | 1955 | Tigers, Black Bucks, Panthers etc |
| (10) Kaziranga national Park | Assam | 1951 | One horned rhino |
| ↳ It is UNESCO world heritage site | | | |
| (11) केदारनाथ Sanctuary | Uttarakhand | 1972 | Musk deer |
| (12) Keibul Lamajao national Park | Assam | 1977 | |
| ↳ It is the only floating park in the world | | | |



★ Two type conservation -

~~Two type~~

(i) in situ conservation

(ii) Ex situ conservation

★ Ex situ Conservation -

It is the conservation of selected rare plants, animals, natural habitat.

It includes -

(i) off-site ~~collect~~ collections

They are the life collections of plants and animals in botanical gardens and zoological parks.

(ii) There are 35 botanical gardens and 275 zoological parks in India.

(iii) Gene banks -

They are the storage facilities, where in which germ plasma is stored in the form of seeds like

Plants, orchards, tissue culture and frozen germ plasma (-196°C)

↳ The germ plasma is stored at -196°C .

(iv) The major cause of loss of biodiversity is loss of habitats.

(v) Over exploitation: -

(vi) Red data book: -

This book contains a record of animals and plants facing the risk of extinction. It has been maintained by IUCN (the international union of conservation of nature and natural resources) it is now called IUCN (World Conservation Union).

Red list was initiated in 1967, the red list of 2004, documents the extinction of 784 species.

338 - vertebrates

359 - In-vertebrates

87 - plants.

(vii) Project tiger: -

Tiger is the national animal of India.

Project tiger was launched in April 1, 1973. There are total 53 tiger reserves in India.

(iv) The major cause of loss of biodiversity is loss of habitats.

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Tiger is the national animal of India.

Project tiger was launched in April 1, 1973
there are total 53 tiger reserves in India.

The largest tiger reserve is the 3586 km sq, नाग-अजुना आगल tiger reserve of अरुण प्रदेश.

Acc. to 2010 report, the population of tiger in India is 1706.

(viii) Project elephant

launch by gov. → 1991-92 of India

(ix) [the national animal of Nepal is ~~elephant~~ cow]

[the national animal of Newgland is ~~seabird~~ kiwi]

[Russian nation animal is white bear]

[USA national animal is वाल्डी जल]

(Countries)

(National animal)

Australia

China

giant Panda

or red Panda

(6)

(7)

(8)

(WWF - world wild life)

Pakistan - markhor

Note! -

The Gov. of India passes the Environment Protection Act in 1986.

(7) Pollutants -

(i) Primary Pollutants -

they persist as they are added to the environment, eg ddt, CO_2 , SO_2 , and fly ash.

(ii) Secondary Pollutants -

they are formed by rxn among the primary pollutants.

eg ozone, PAN (peroxy acyl nitrate)

(8) Pollutants - (other classified)

(i) Biodegradable -

They are quickly degraded by the micro-organisms.

eg - sea wage, market garbage, life stock waste, waste

(1) Non-biog

D.D.T, Plastics, polythene bags,
ammonia, BHC (Benzene hexa
chloride)

thermocole

(9) • Automobiles are a major cause
of air pollution in urban areas.

• The air control - pollution act was
made in 1986.

• In 1987, noise was also included
as an air pollutant.

• CO is an air pollutant, it combines
with haemoglobin to form
Carboxy haemoglobin.

• CO₂ is a green house gas,

• lead is also present in petrolium

• काद का खीरा खेत वा रते, in ~~AC~~ AC

(10) Govt of India make new
Auto fuel Policy

"Euro II norms ^{was} stipulates to control, SO_2 350 ppm in diesel and 150 ppm in petrol.

Aromatic hydrocarbon are to be ~~control~~ contained at 42%.

These norms have been applicable for the country 1st April, 2005.

Then —

Euro III ~~Euro II~~ are made now from 1st April 2010, Euro IV are applicable

The goal to reduce sulphur to 50 ppm in petrol and 75 ppm in diesel.

(ii) Smoke —

It is the dark fog formed by the condensation of water vapours with dust and smoke particles

(iii) Acid rain — the term acid rain does comes by Robert August in

~~1842~~ 1842, The pH of normal
range is 7.3 to 7.4.

(1)

Acid rain mainly, rain with
below 5.

It is caused by immersion of acidic
gases into the atmosphere.

LATERAL of AIR has been
spoiled by the "Refinery of AIR",
due to SO_2 .

Acid rain is mainly due to SO_2
and NO_2 .

~~(12) What~~

Water Pollution

(1)

It causes minamatai disease
 It was first reported in ~~1952~~ ¹⁹⁵² due
 to the eating of fish, captured
 from mercury containers minamata
 bay of Japan |

Lead -

It is also present in
 It can damage liver, kidney and brain,

Cadmium -

It causes a disease called itai-itai,
 first reported in Japan. It is
 a painful disease of bones and
 joints

Nitrates -

Excess nitrates in drinking water
 cause blue-baby syndrome.

It is in infants.

● Echhornia ~~crassipes~~ ^{crassipes} - It is called
 water hyacinth (terror of Bengal)
 It is the problematic aquatic
 weed.

* Green house :-

The Phenomena of heating the earth warm due to the presence of _____ in the atm

The various greenhouse gases are

CO₂ - 60%

methane - 20%

CFCs - 14%

N₂O - 6%

The national forest policy 1988, recommended 33% forest area for the plain's and 67% for the hills.

Acc. to the report in 1997, forest area of India was 19.27%.

acc to report 2007, this area is 21.02%, the forest area can be increased by afforestation and re-forestation.

"Amrita Devi" is well known for

the
sacrifices
forests

Chinko
Brewer
by

chan
with

A
P.H

a

u

↓

mens - cons

Ri

to

Dr

E

c

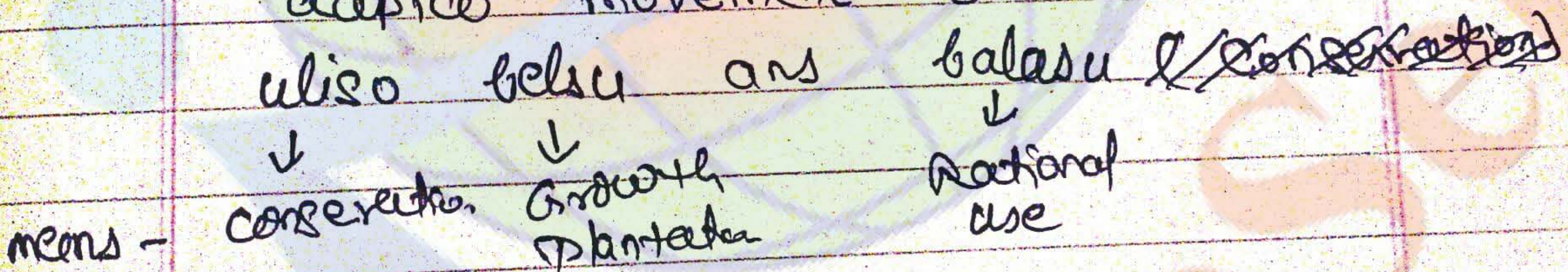
Heart - Right side

The conservation of forest who sacrificed her life to prevent the deforestation in Rajasthan in 1731.

Chipko - movement was started in Garo (U.P), Himalayas in 1974 by Sri Sunder Lal Bahuguna.

Chandi Prasad Bhatt is also related with chipko - movement.

A similar mov. was started by P. Hodge in South. It is called as pisco movement. It aims at



Richard Saint Barribaker is called as tree-man of India.

Dr. Salim Ali is called bird man of India. Salim Ali college of ornithology is in U.S.A.

CHEMISTRY

| Commercial name | Chemical name |
|------------------------|----------------------------|
| Acid salt | hydrochloric acid |
| alcohol | ethyl alcohol |
| ammonium acetate | ammonium hydroxide |
| Aqua fortis | Conc. nitric acid |
| azote gas | nitrogen gas |
| Azurite | Copper carbonate |
| Baking Soda | Sodium Bicarbonate |
| Bauxite | Hydrate aluminium oxide |
| Bleaching powder | calcium chlorohypochlorite |
| Blue vitriol | It is copper sulphate |
| Brim Stone | Sulphur |
| Common salt | sodium chloride |
| Brine | |
| calamine | Zinc carbonate |
| canifluid | Potassium |
| | Per-magnet |
| can sugar / beat sugar | sucrose |
| carboxylic acid | Phenol |
| caustic potash | Potassium hydroxide |
| caustic soda | Sodium hydroxide |
| chalk | calcium carbonate |
| Cinnabar | mercuric sulphide |

Grade Setter

Dry ice
formalin

Galena
Green vitriol
Zinc
Hypo

Laughing gas
lime

lime water
lime stone

marsh gas
milk of magnesia
phosphorus
plaster of Paris

Potash
Quick silver
Red licker
sand
shale
slate

TNT (explosive)

Talc

solid CO_2

It is 23% solution of formaldehyde

It is lead sulphide
It is ferrous sulphate
calcium sulphate.
It is called sodium thio-sulphate.

It is nitrous oxide
calcium oxide.

calcium hydroxide.
calcium carbonate

methane

magnesium hydroxide.

it is zinc oxide.

hemihydrate of calcium sulphate.

calcium carbonate

It is ~~mercury~~ mercury

aluminium acetate

silicon dioxide.

Potassium nitrate

silica aluminium

oxide

nitro-toluene

It is magnesium silicate.

Tear gas
vinegar

washing water
white

<2>

List of

Boron

Helium

Lithium

Beryllium

Aluminium

Calcium

Cobalt

Nickel

Germanium

Selenium

Date _____
Page _____

Tear gas
vinegar
washing soda
water glass
white niterol

chloropicrin
dilute solution of
acetic acid.
sodium carbonate.
sodium silicate.
Zinc sulphate.

<2> List of common metals

- Boron
- Helium
- Lithium
- Beryllium
- Aluminium
- Calcium
- Cobalt
- Nickel
- Germanium
- Selenium
- Barium

magnesium

zinc

sodium

potassium

Caesar

gold

silver

nickel

iron

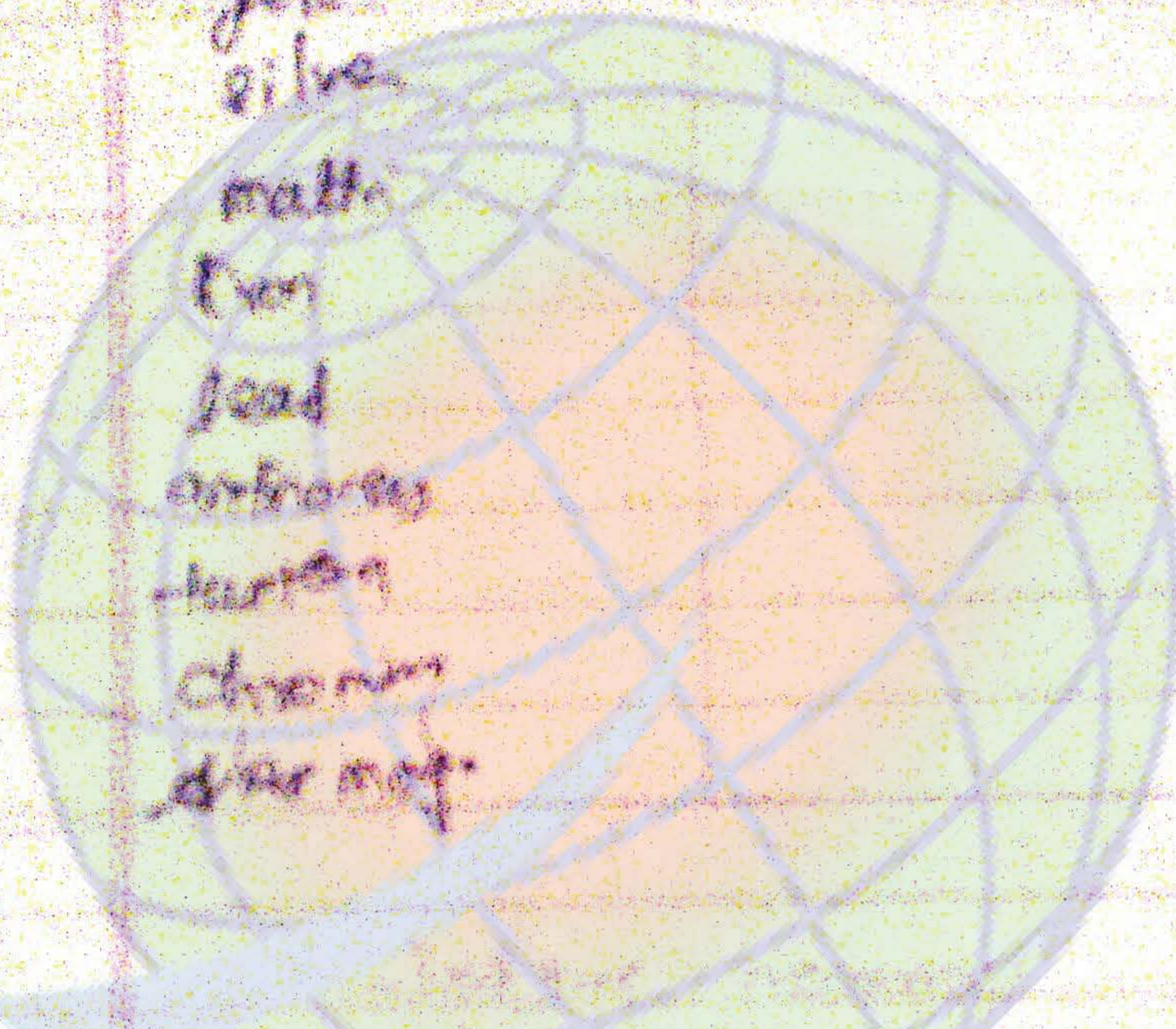
lead

antimony

arsenic

chromium

diamond



(1) List of Common non-metals
 Hydrogen, Nitrogen, Oxygen, Fluorine,
 Chlorine, Bromine, Iodine, Carbon,
 Phosphorus, Silicon.

(2) Noble gas
 Helium, Neon, Argon, Krypton, Xenon,
 Radon, Gallium, Platinum, Cadmium,
 Mercury, Thallium.

(3) Radio active metal-
 Uranium, Thorium

(d)

element

Ore.

aluminium

Corundum, bauxite
diaspore, cryolite.

antimony

stibnite

arsenic

chalcite, orpiment,
mispickel.

Barium

witherite

calcium

chalk, lime stone

Cadmium

zinc, dolomite

Copper

greenockite,
malachite, azurite,
petzite

Gold

haemetite, native

Iron

magnetite

pyrite

magnesium

malachite, azurite

mercury

cinnabar

potassium

carrollite, feldspar

silver

horn silver, ruby silver

nickel

sodium nitrate

zinc

zinc

zincite, calamine,

zinc blende

(8)

An alloy is a mixture of 2 or more metals/non-metals.

Common alloys:-

- stainless steel - Iron (85%)
 - Carbon (0.2 to 1%)
 - Nickel (10%)
 - Chromium (13%)

- Duralumin - Aluminium (95%)
 - Magnesium (0.5%)
 - Manganese (0.5%)
 - Copper (4%)

- Magnesium - Aluminium (95%)
 - Magnesium (5%)

- Brass - Copper (60 to 90%)
 - Zinc (10 to 40%)

- German Silver - Copper (50%)
 - Zinc (10%)
 - Nickel (40%)

- Bronze - Copper (10%)
 - Tin (10%)
 - Zinc (2%)

- Coin metal - Copper (79%)
Zinc (20%)
nickel (1%)
- bell metal - copper (80%)
tin (20%)
- Type metal - lead (75%)
(used in Printing Press) tin (5%)
antimony (20%)
- ~~mon~~ muntz - copper (60%)
(used in Boat W) Zn (40%)
- Alnico - Iron (60%)
nickel (20%)
calcium (10%)
aluminium (10%)
- Gun metals - copper 88%
tin (10%)
Zinc (1%)
lead (1%)
- Tungsten steel - Iron (79%)
Tungsten (20%)
carbon 1%
- solder - tin (67%)
lead (33%)

when one of the metal in alloy is liquid mercury is called an amalgam. and Amalgam consisting of mercury, silver, tin and zinc is used by the dentist, for filling in teeth.

It means all amalgam are alloys but all alloys are not amalgam.

(2) Aqua
Et
acid
ratio
also.

(3) D/H -
H
L

Atomic no. and mass no

(1) • Atomic no - The no. of proton present in nucleus of an atom is called its atomic no. It is denoted by Z .

Atomic no (Z) = No. of Protons = No. of electrons

• mass no. = The sum of the no. of protons and neutrons present in the nucleus of the atom is called mass number.

(2) Aqua regia -

It is a mixture of one nitric acid and hydrochloric acid in the ratio of $\frac{1}{3}$. It can dissolve gold also.

(3) pH -

| | |
|----------------------|-------|
| Human stomach | - 1.7 |
| lemon juice | - 2.2 |
| vinegar | - 2.9 |
| tomato juice | - 4.1 |
| black coffee | - 5.0 |
| urine | - 6.0 |
| milk | - 6.9 |
| pure water | - 7.0 |
| blood | - 7.4 |
| sea water | - 8.5 |
| house hold detergent | - 9.2 |