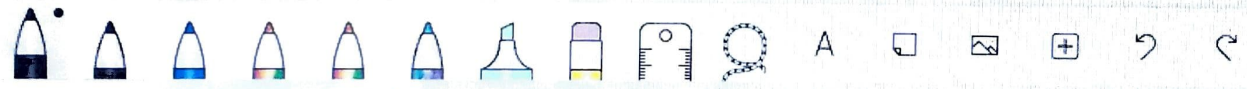
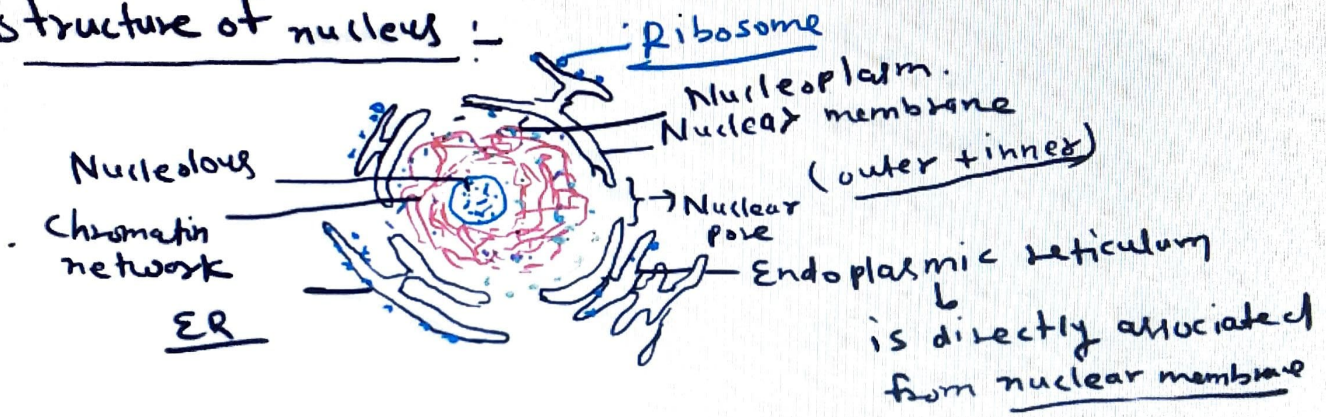


Component of nucleus ✓

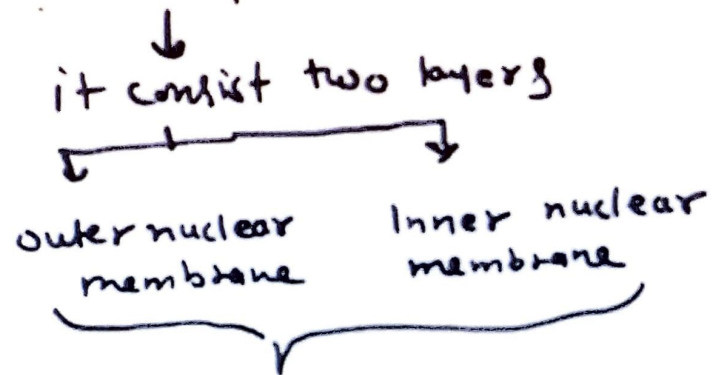
- ① Nuclear membrane/karyotheca/Nuclear envelope
- ② Nucleoplasm (fluid of nucleus)
- ③ Nucleolus (Term given by phantana).
- ④ Nuclear pore

structure of nucleus :-



Nuclear membrane :-

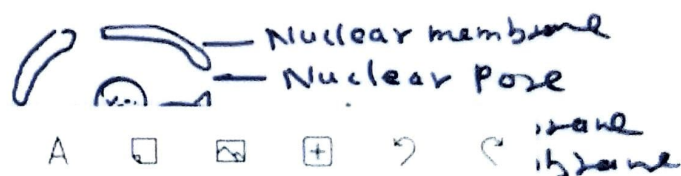
it is covering layer of nucleus.



Collectively both of membrane is called nuclear envelope.

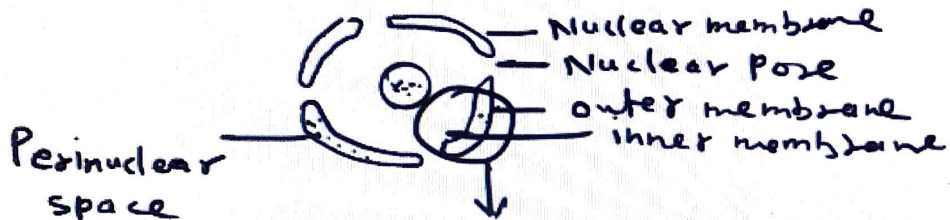
Imp

Both of membrane separated by Perinuclear-Space.



Collectively both of membrane
is called nuclear envelope.

↓
Imp . Both of membrane separated by
Perinuclear-Space.



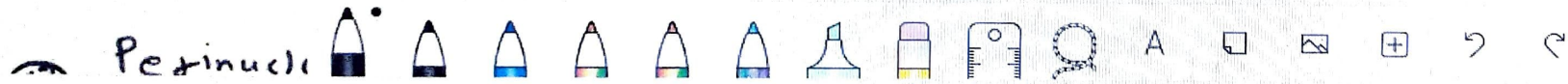
function
↓

① Separate both
of nuclear membrane.

is filled by
Perinuclear fluid

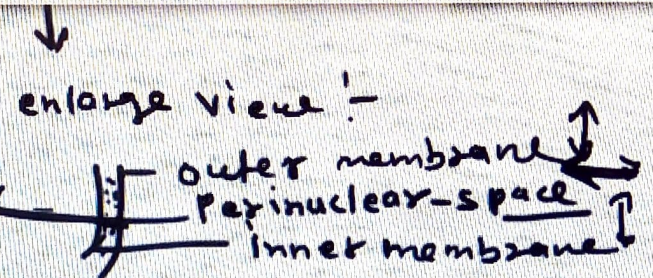
enlarge view :-

Labels in enlarged view:
outer membrane
Perinuclear-space
inner membrane



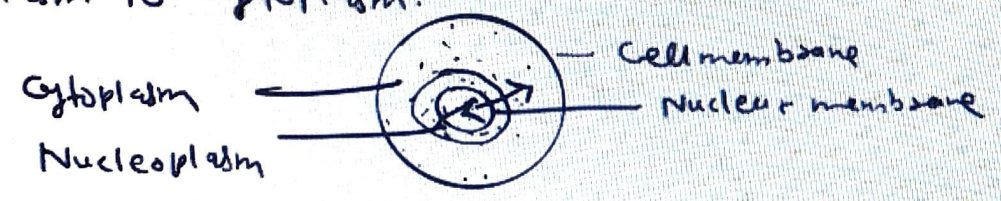
function ↓

space ↓
is filled by
Perinuclear fluid

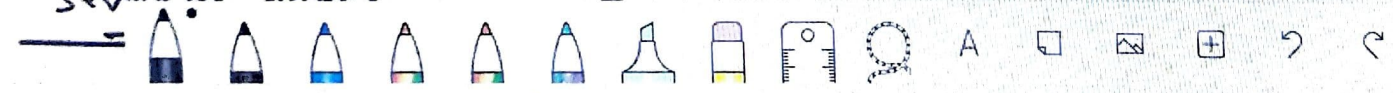


① separate both of nuclear membrane.

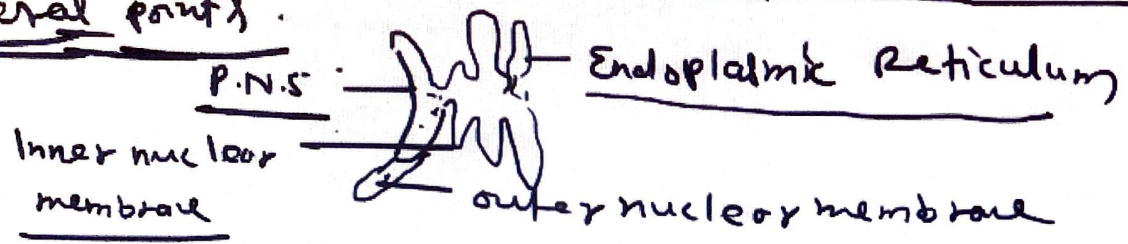
② Perinuclear ^{space} ~~membrane~~ play an important role to transport various types of substances across nucleoplasm to cytoplasm.



❖ The outer nuclear-membrane communicates with ER at several points



↳ The outer nuclear-membrane communicated with ER at several points.



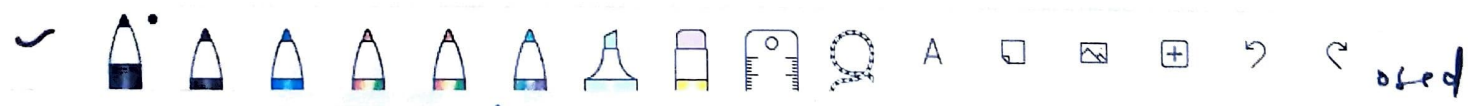
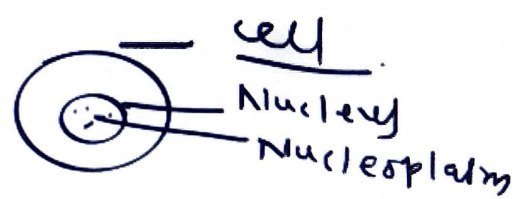
Nucleoplasm :- (Fluid of nucleus)

Like the cell



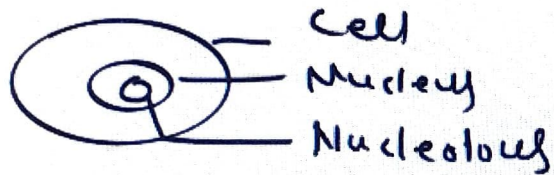
The nucleus has a fluid interior.

↓
Nucleoplasm



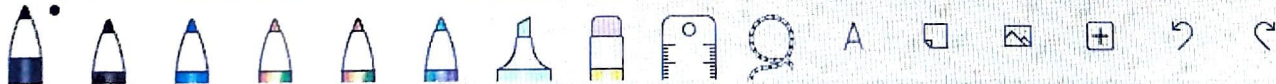
- ✓ Like the cytoplasm, nucleoplasm is mainly composed of water, ions and soluble molecules.

Nucleolus . (Nucleus inside nucleus)



- ✦ The nucleolus was first discovered by phantana in 1874.
- ✦ shape . spherical shape.

Location Nucleolus placed centrally / peripherally



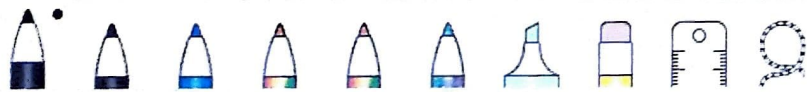
❖ The nucleolus was first discovered by phontana
in 1874.

❖ shape . spherical shape.

❖ Location - Nucleolus placed centrally/peripherally
in close association with NOR

↓
Nucleolar organises
region. — (NOR)

— it is responsible to
form nucleus/nucleolus
division



division

— it is responsible to
form nucleus/nucleolus
during cell-division

Parts of nucleolus

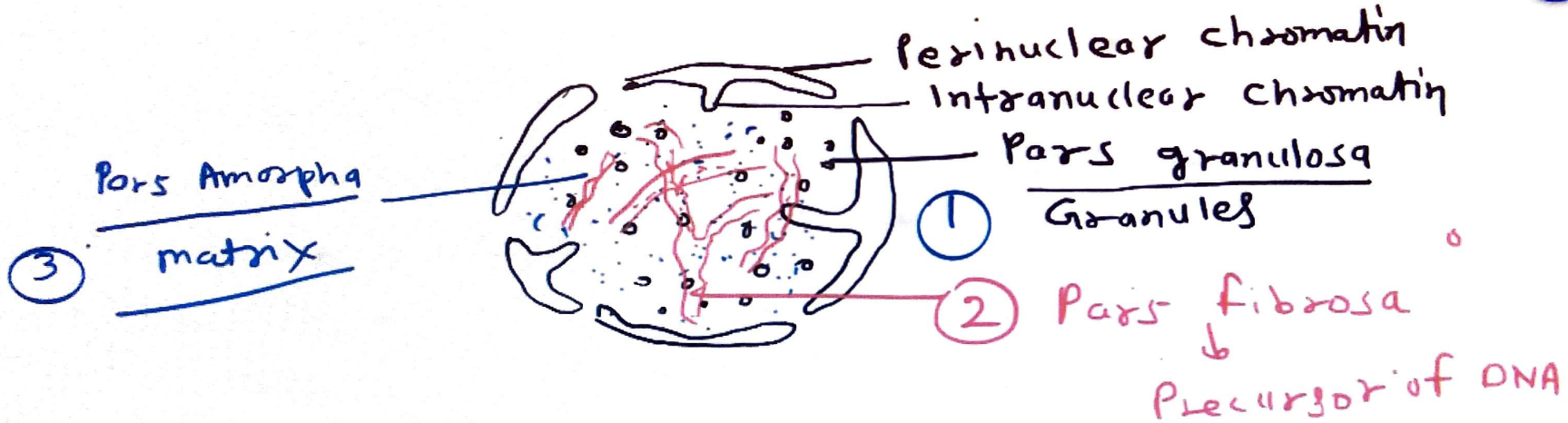
- ① Part granulos (precursor of ribosomes)
- ② Part fibrosa (precursor of DNA)
- ③ Part Amorpha — (part of matrix)

structure of nucleolus

perinuclear chromatin
intranuclear chromatin

— Part granulos

Structure of nucleolus



Function of nucleolus

✓ Nucleolus is the main site of RNA synthesis

← genetic material

↓

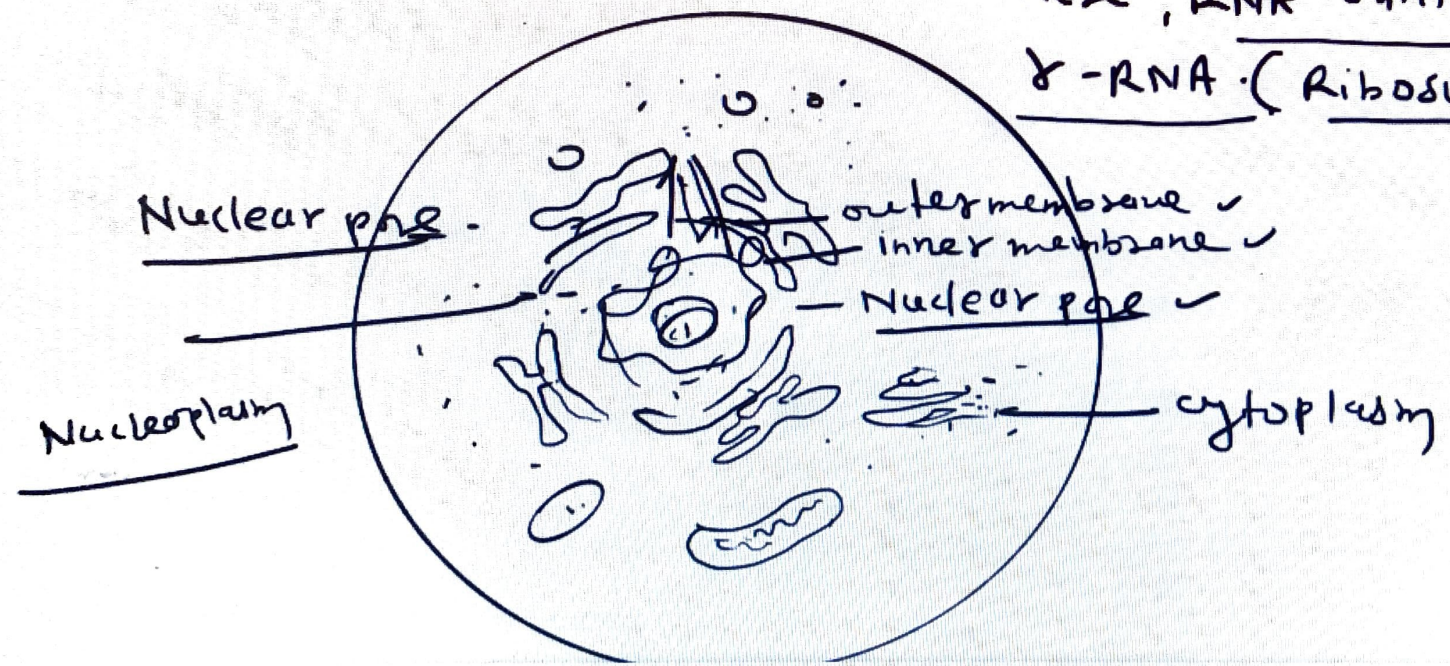
synthesised by

✓ Nucleolus is the main site of RNA synthesis

← genetic material



here, RNA synthesised by r-RNA (Ribosomal RNA).



✓ By the help of nuclear pore

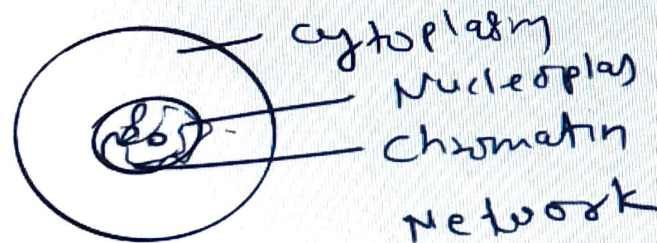
↓

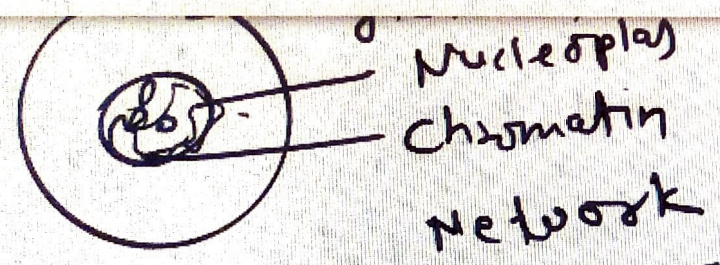
Transport various types of substance via nuclear pore

↓
genetic material

- DNA
- RNA

- ✓ protein
- organic compounds
- minerals
- etc



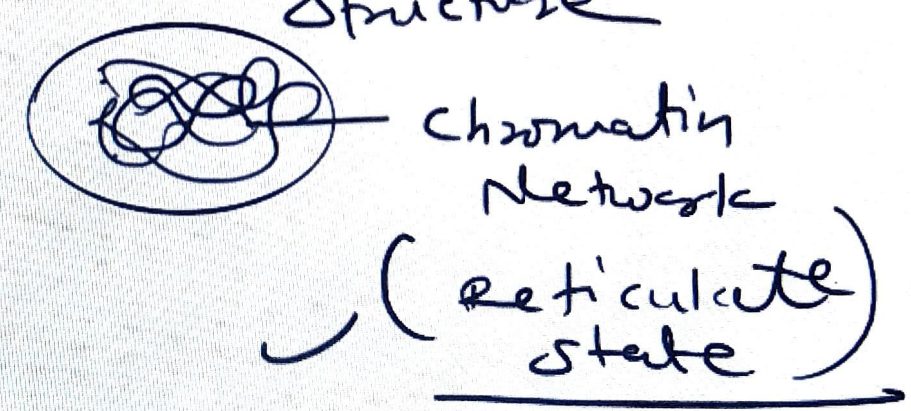


ete



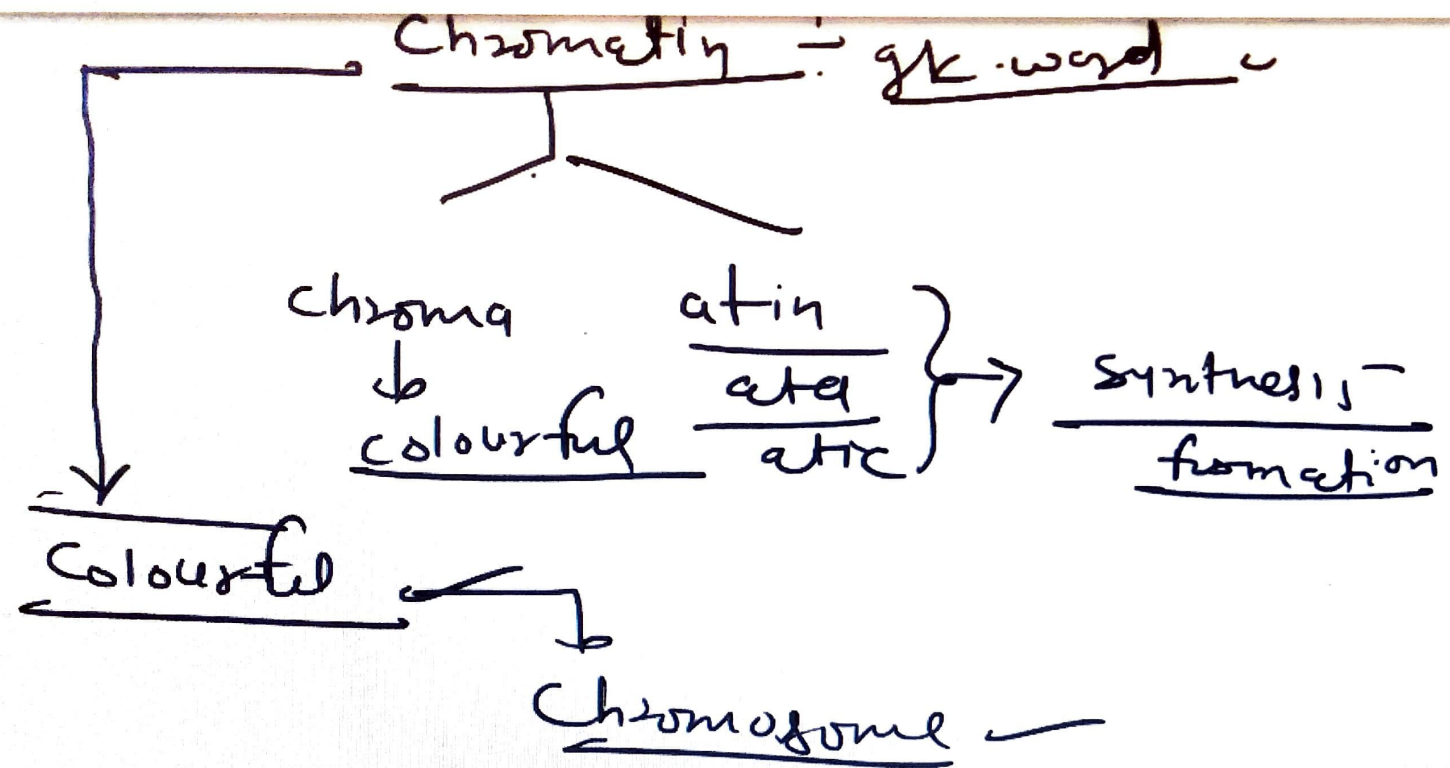
↓
 Present in Reticulate state
 inside cytoplasm

A net-like structure ✓



Chromatin is a network





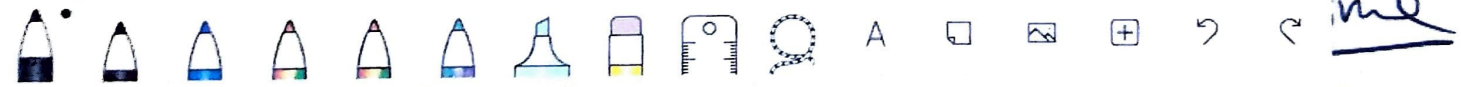
↳ Chromatin material inside the nucleus is an

↳ Chromatin material inside the nucleus is an
↳ organisation of DNA (Chromatin)

↓
As a cell prepared to divide

↓
The chromatin
✓ condense & thick

Then it is known

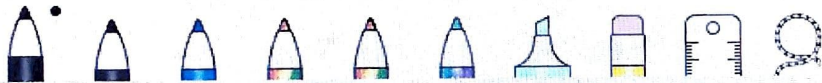


↳ Chromatin material inside the nucleus is an
↳ organisation of DNA (Chromatin)

↓
As a cell prepared to divide

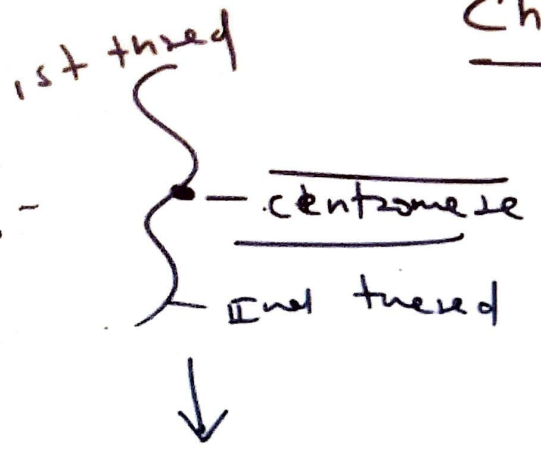
↓
The chromatin
✓ condense & thick

↓
Then it is known
as chromosome.



Chromosome

Chromatid



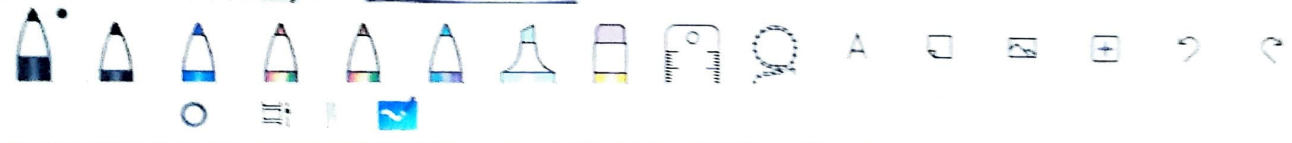
- Discovered by strassberger
- when we stain chromosome by Acetacarbine (stain)

when cell is prepared to cell-division
↓

Then chromosome appears in two colours

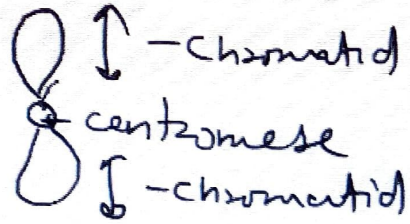
Dark colour Light colour

Chromatid become condense & Thick



Chromatid become condense & Thick

cell division
→



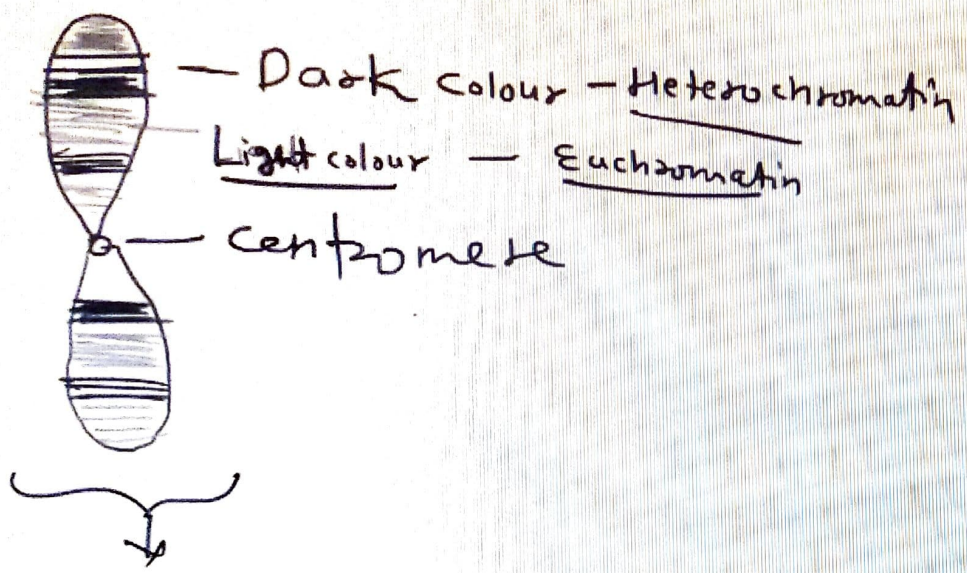
one centromere attached by two chromatids.

Chromosome

stained by Aceta Carmine

Stain

A digital drawing toolbar with various icons for drawing tools like pens, highlighters, eraser, and selection tools. Below the toolbar is a system tray with icons for network, volume, and power, along with the date and time: 22:10, 30-07-2020.



Chromosome

Chromo = Colourful -
Some = Body

Stain



on the basis of staining
colour, chromosome
divided into two types -

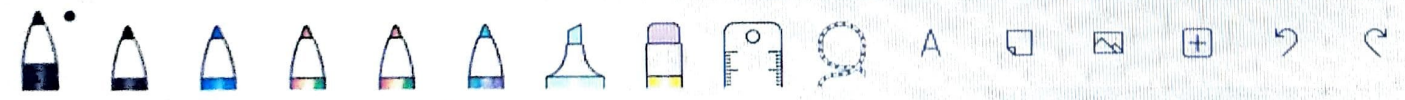
Chromosome



Dark stain
(Heterochromatin)

Light stain
(Euchromatin)

↳ chromosome is composed of Nucleic Acid



↳ chromosome is composed of Nuclie Acid

① Nuclie protein

② Proteins } some amount
③ Lipid } amount

DNA

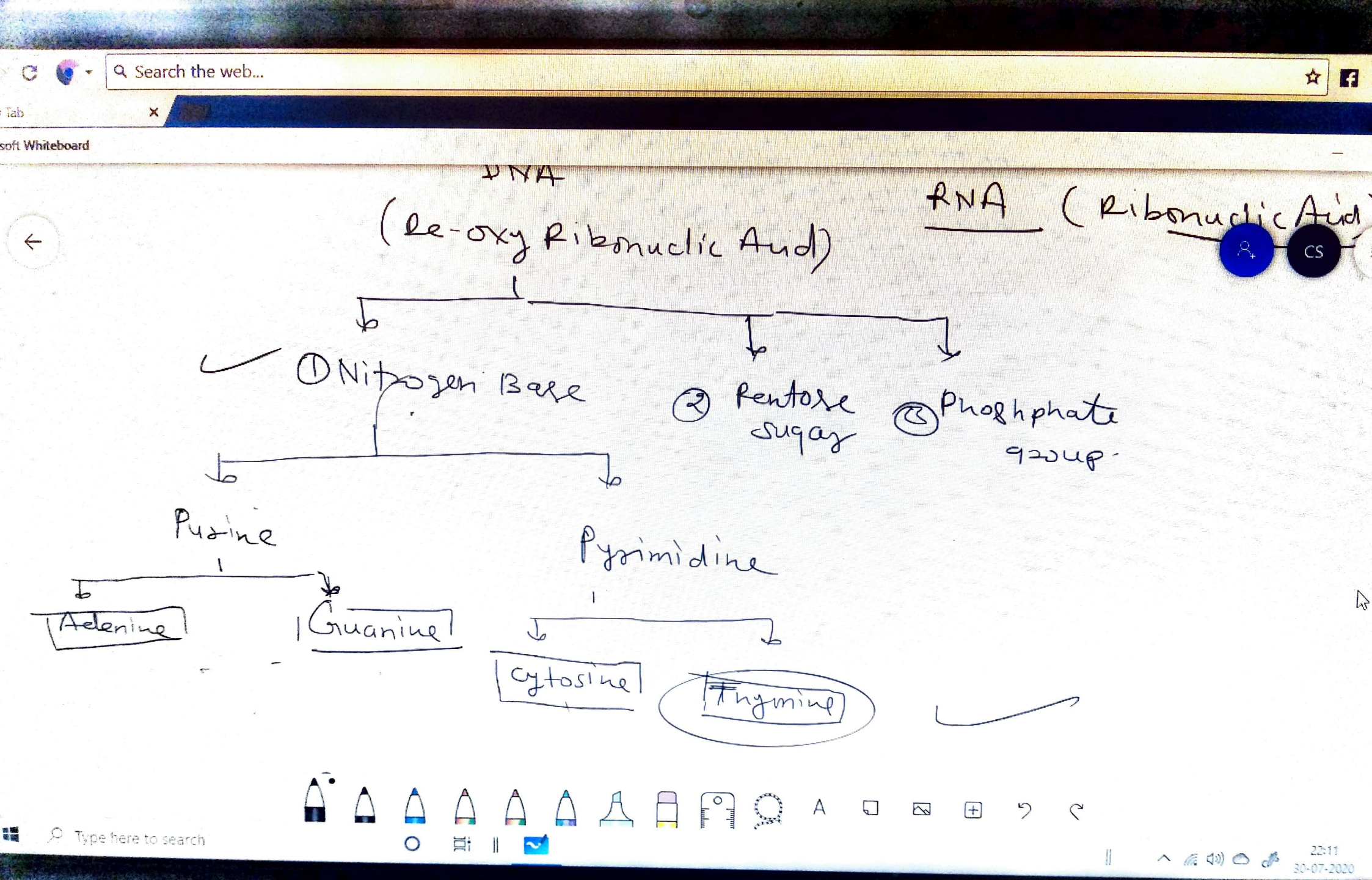
(De-oxy Ribonucleic Acid)

RNA (Ribonucleic Acid)

① Nitrogen Base

② Pentose sugar

③ Phosphate



DNA
(De-oxy Ribonucleic Acid)

RNA (Ribonucleic Acid)

① Nitrogen Base

② Pentose sugar

③ Phosphate group

Purine

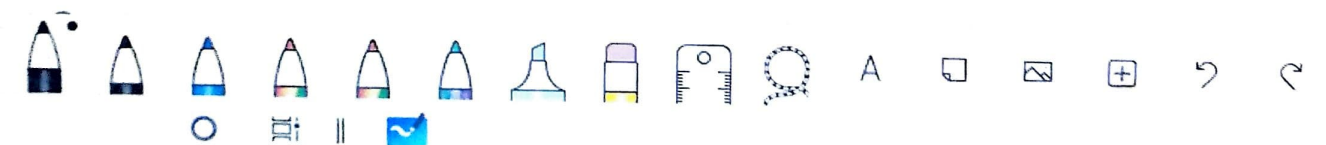
Pyrimidine

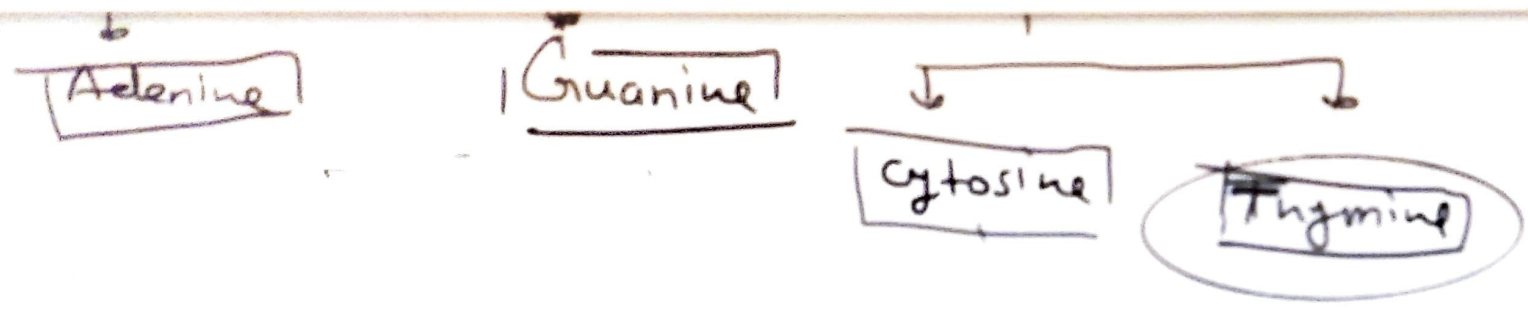
Adenine

Guanine

Cytosine

Thymine





RNA (Ribonucleic Acid)

