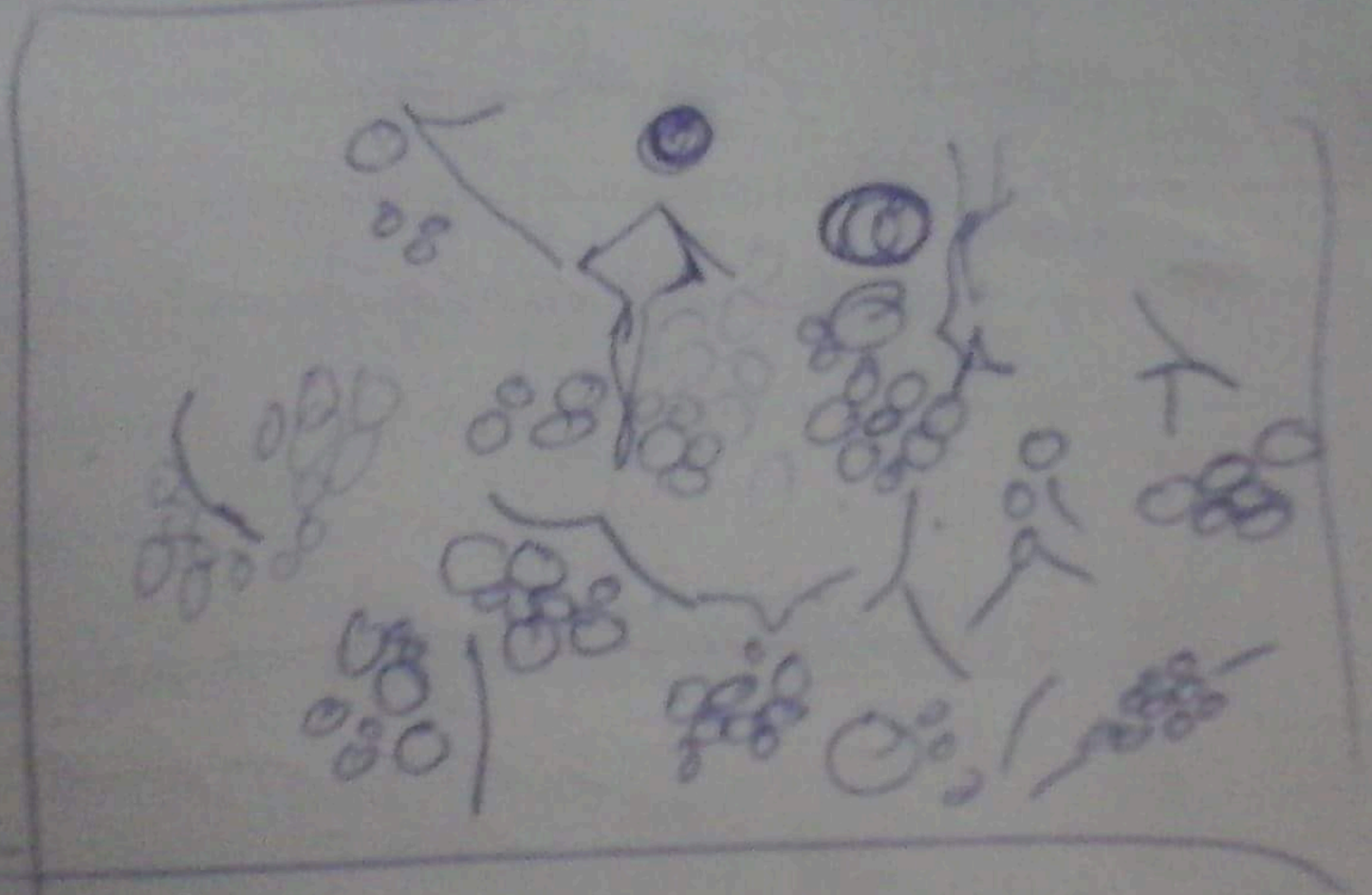
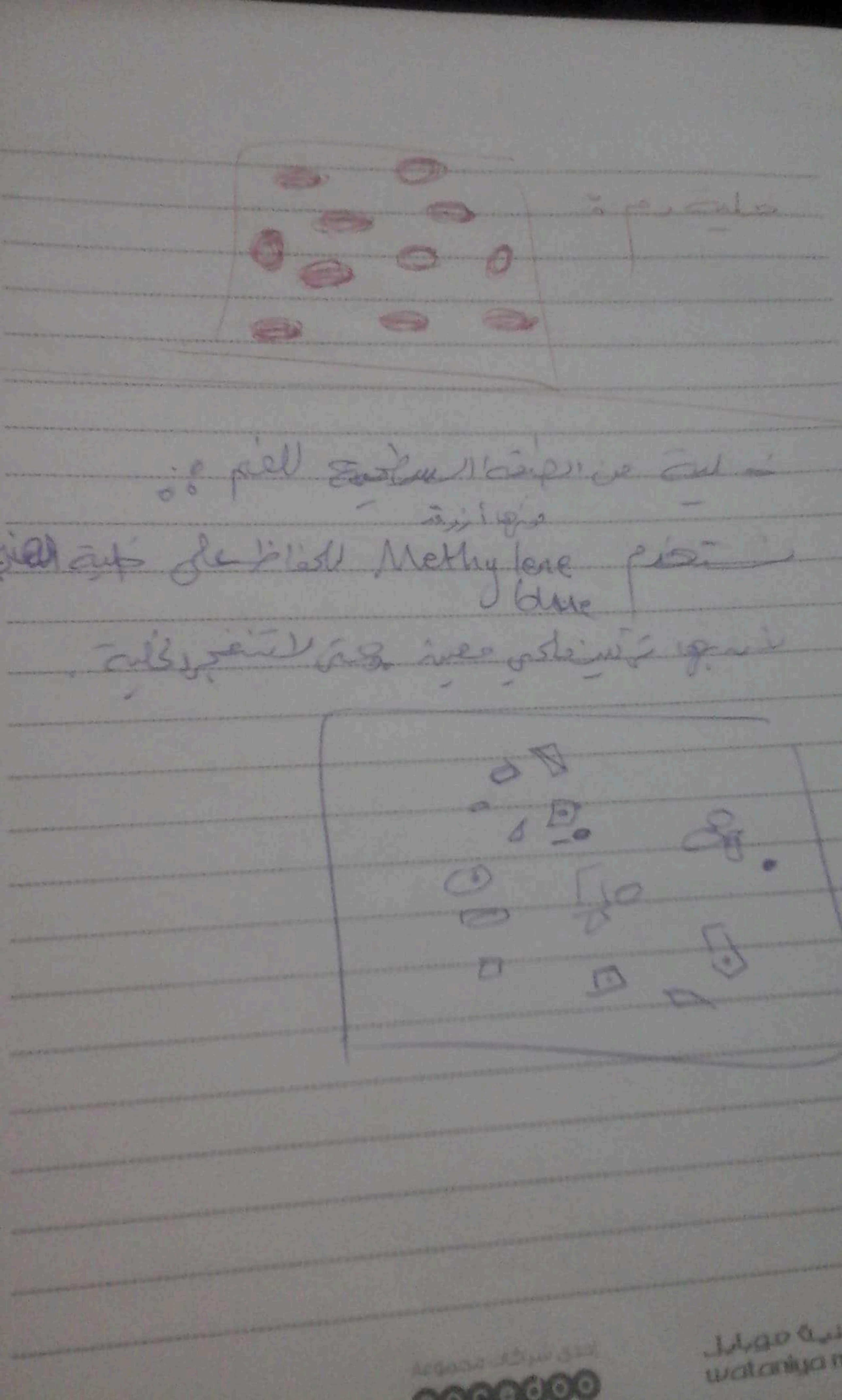
خلية البطاط بدون I.KI





animal cell

2- Isotonic + blood H_2O =

1- water 0.5% blood ⇒

3- Hypo, 0.9% + blood

4) 0.9% + blood ⇒ shrink

with plant cell :

* 0.5% most in plant cell : turgor

0.5% ⇒

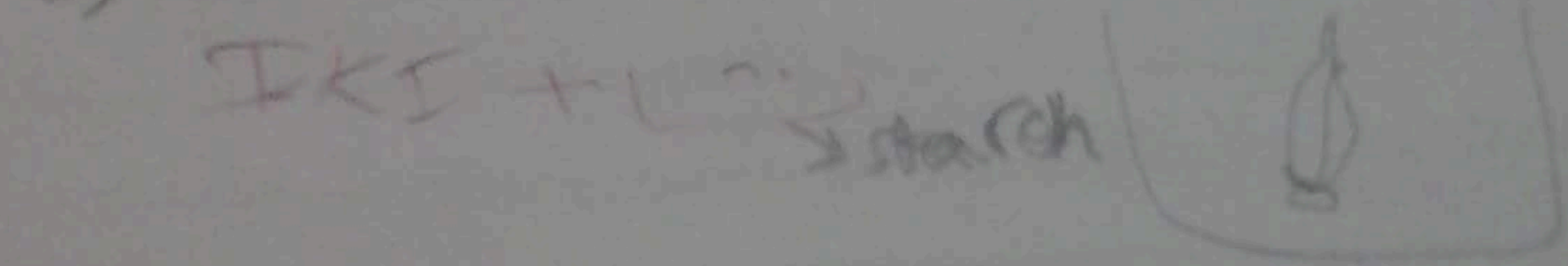
0.9% ⇒ plasmolysis

10% ⇒ plasmolysis

water ⇒ plasmolysis

Exp num 2 :-

a) water with methylene Blue

b) 

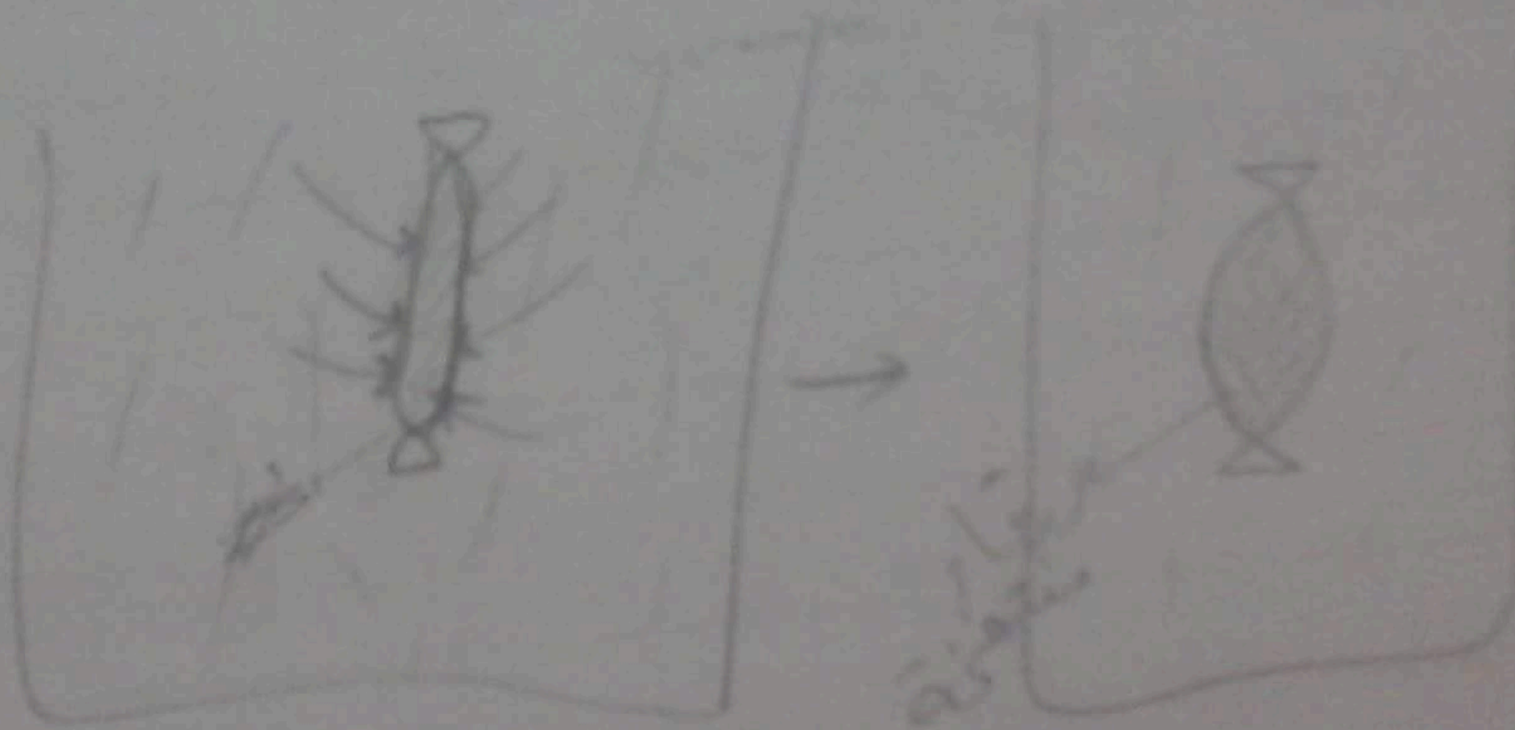
c) $AgNO_3$ / $K_3Fe(CN)_6$ / KBr / NaCl
+ Petri dish

Relative rate of diffusion = $\frac{\text{coefficient}}{\text{SA}}$

B → A =

Diffusion in an artificial cell:

starch + iodine solution



Carbohydrates :-

1) Mono

2) Di

3) Oligo ⟶ (3 — 9)

4) Poly 200, — 1000,

* Reducing agent ⟵ Oxidation

* Oxidizing agent ⟵ Reduction

* Oxidation State :-

1) Pure State, oxidation # = 0

O_2 , Cl_2 ...

2) Mono Atomic ions : Oxidation

S^{2-} / Ir^{+4} ⟵ charge

3) Multi-Atomic :

Activity four:

Molisch Test → α naphthol

1) glucose 2% ⟶ purple

starch 2% ⟶ pur ple

water ⟶ ~~Blue~~

sucrose 2% ⟶ purple

2) IKI testing:

IKI + cotton ⟶ ~~brown~~ violet

+ paper: ⟶ violent brown

IKI + Starch 2% ⟶ Blue ~~dark~~ black

IKI + Glycogen 2% ⟶ ~~dark brown~~ red brown

IKI + Water ⟶ ~~Blue~~

Benedict test ⟶ ~~Blue~~

3) Glucose: ⟶ Brick Red

Fructose 2% ⟶ Brick Red ⟹ mono saccharide

× Sucrose 2% ⟶

× Lactose 2% ⟶

× Maltose 2% ⟶

× Starch 2% ⟶

× water ⟶

4) Benedict's reagent:

- Glucose: Brick red
- Fructose: " "
- Sucrose: No change
- Lactose: Brick red
- Maltose: Brick red
- Formaldehyde: No chang
- Starch: No change

5) Glucose 4% + Benedict's reagent + water 92%
Brick red.

6) the color become red
due to mono saccharides

Experiment :- Lipid identification by Sudan III

1) Xylene ← لم يتم الاذابة (Hydrophobic) (ليس كتير)
No reaction

2 & Corn oil → (Lipid) / orang-red أعطى لون

2.) Comparison of lipid content in different lipid sources

5 * ether (E) - -

4 flour (F) -

1 butter (B) + + +

3 milk (M) +

2 nuts (N) + +

3) Identification of lipids by emulsion

Ethanol 95% + corn oil ⇒ shake
cloudy emulsion
lipid dissolve in EtOH.

4) By heat

3) egg white solution ⟹ ...

5) By chemicals:

* water distilled ⟹ no reaction
* ethanol ⟹ ... precipitate
* $CuSO_4$ 10% ⟹ ...
* $(NH_4)_2SO_4$ ⟹ ...
* TCA ⟹ acid

6) Identification of protein and polypeptide by Biuret test:

+ $CuSO_4$ + NaOH

egg white ⟶ purple

glycine ⟶ blue

} peptide bond

www.wataniya.ps
الوطنية موبايل
wataniya mobile

* DCPIP لونها أزرق
(Colorless عديم اللون) ↓ شكلها الجزيئي كل ↓ + ascorbic acid
Red

* VC + DCPIP ⟹ Colorless
sedue عديم اللون

* IKI + starch ⟹ blue B.C
+ ascorbic solution ⟹ di
The co
Iodide can't attraction with starch
⇒ complex → color
reduction

Exp 6 :

Time	volume
0 min	0
5 min	0.2
10 min	0.35

www.mucatalogs.com

Mitosis (46) mother cell

(46)

---

cell cycle ⟹ دورة الخلية

G_1 ⟶ first gap

S ⟶ synthesis phase

G_2 ⟶ second gap

تكون ملتفة على البروتين

nucleolr ⟶ synthesis of ribosome

Mitosis ⟶ nuclear division

---

cytokinesis ⟶ cytoplasmic division

انقسام السيتوبلازم

Exp 7 :-

Mitosis in cells of onion root

1) prophase :- 61 $\frac{61}{144} \times \frac{100}{100} = 0.535$

2) Prometaphase :- 15 $\frac{15}{144} = 0.1$

3) metaphase :- 22 $\frac{22}{114} = 0.193$

4) anaphase :- 10 = 0.077

5) Telophase :- 6 = 0.053

16 عدد الخلايا

الخلايا الكلي

$\frac{144}{\text{Time}}$

1) 0.535 → 8.56

2) 0.132 → 2.112

3) 0.193 → 3.088

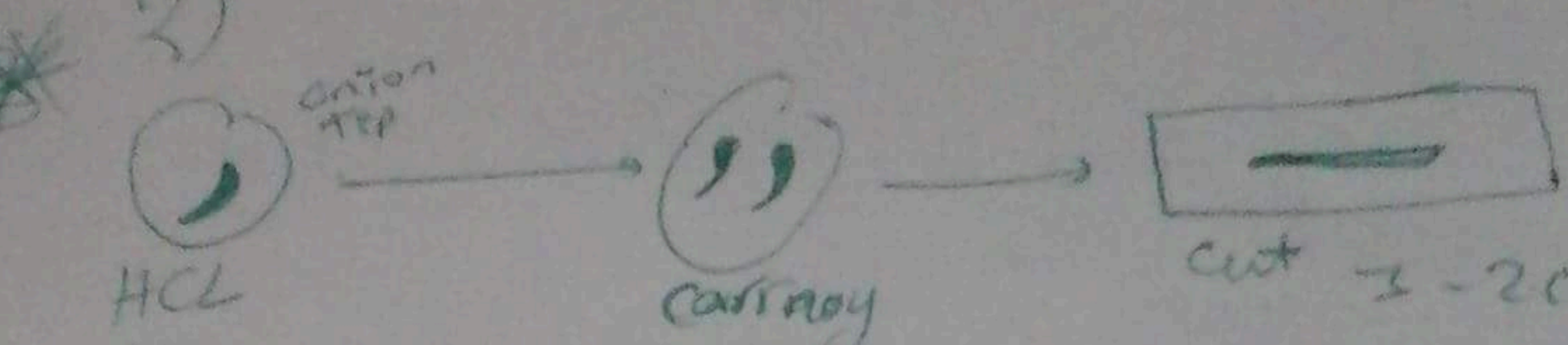
4) 0.088 → 1.408

5) 0.053 → 0.848

www.welcarigya.ps

الحكومة موبايل
welcarigya mobile

2)



onion tip → HCL 1B% 4min → carnoy → cut 1-2 cm

→ 2min → adrop toludine → wash H_2O → drop H_2O

press (squash) ← put (overslip)

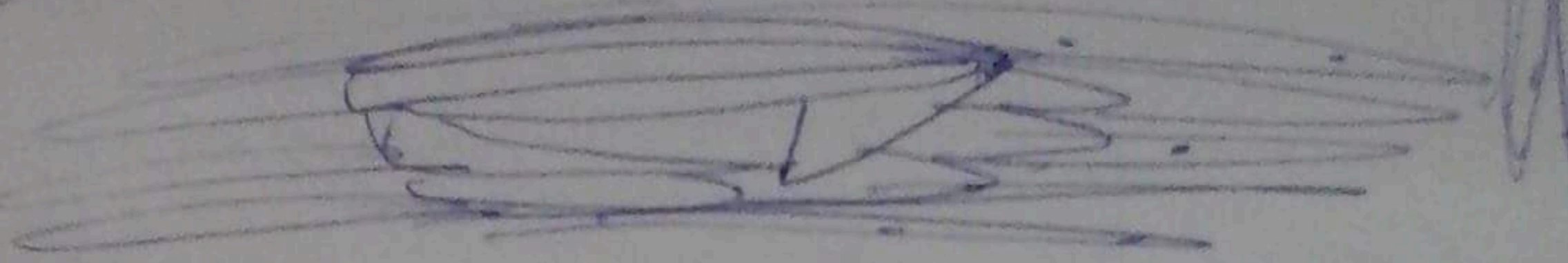
نستخدم carnoy من أجل عمل fixation أو تثبيت للخلايا / ممكن لتقليل وتوقيف الانقسام الخلايا

الجذر الواحد يحتوي على أكثر من مرحلة للانقسام لكل خلية لها دور معين

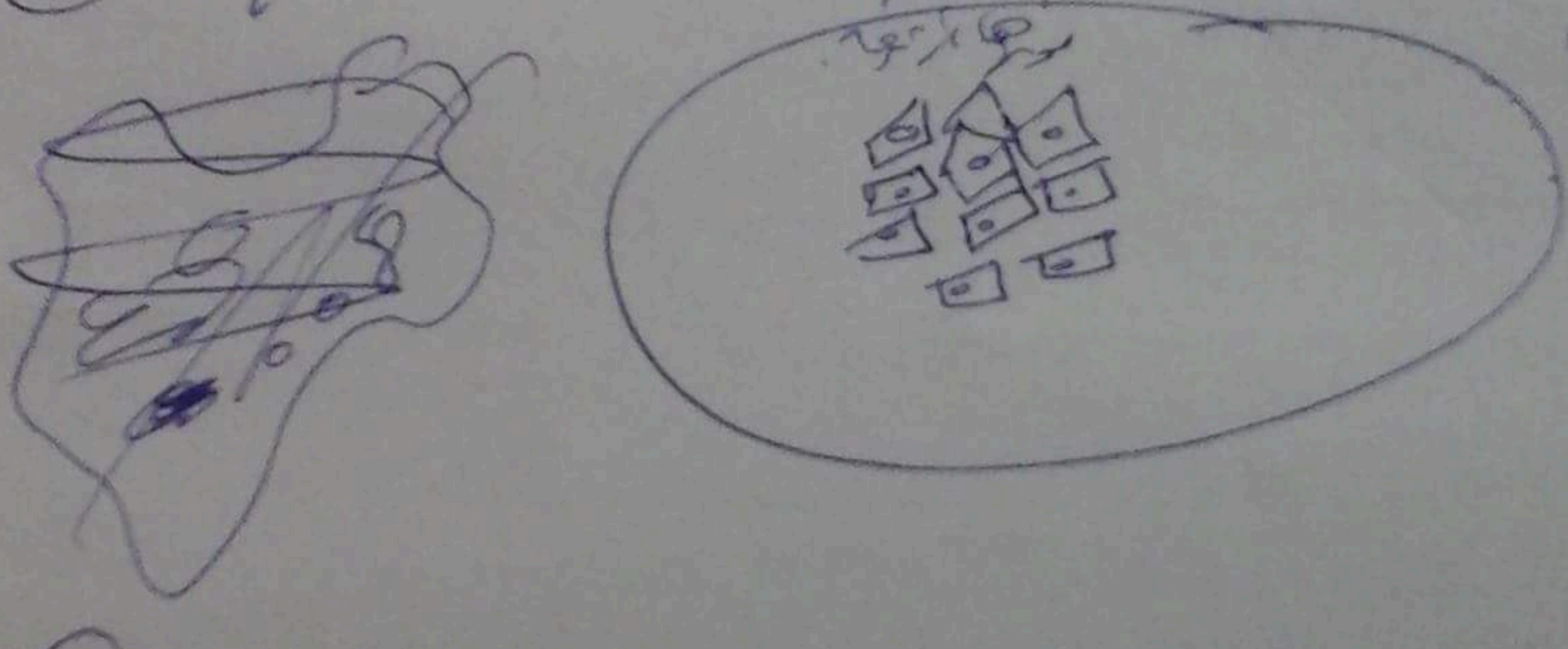
نضغط لجعل الخلايا طبقة واحدة oneller

Tissues:

(1) Smooth Muscle

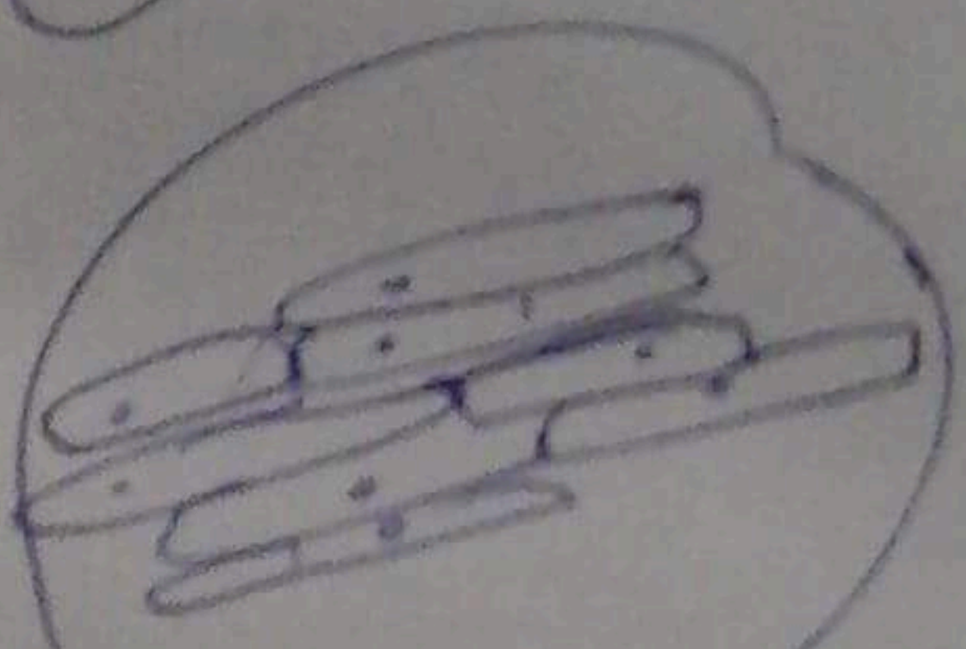


(2) Squamous epithelium Human

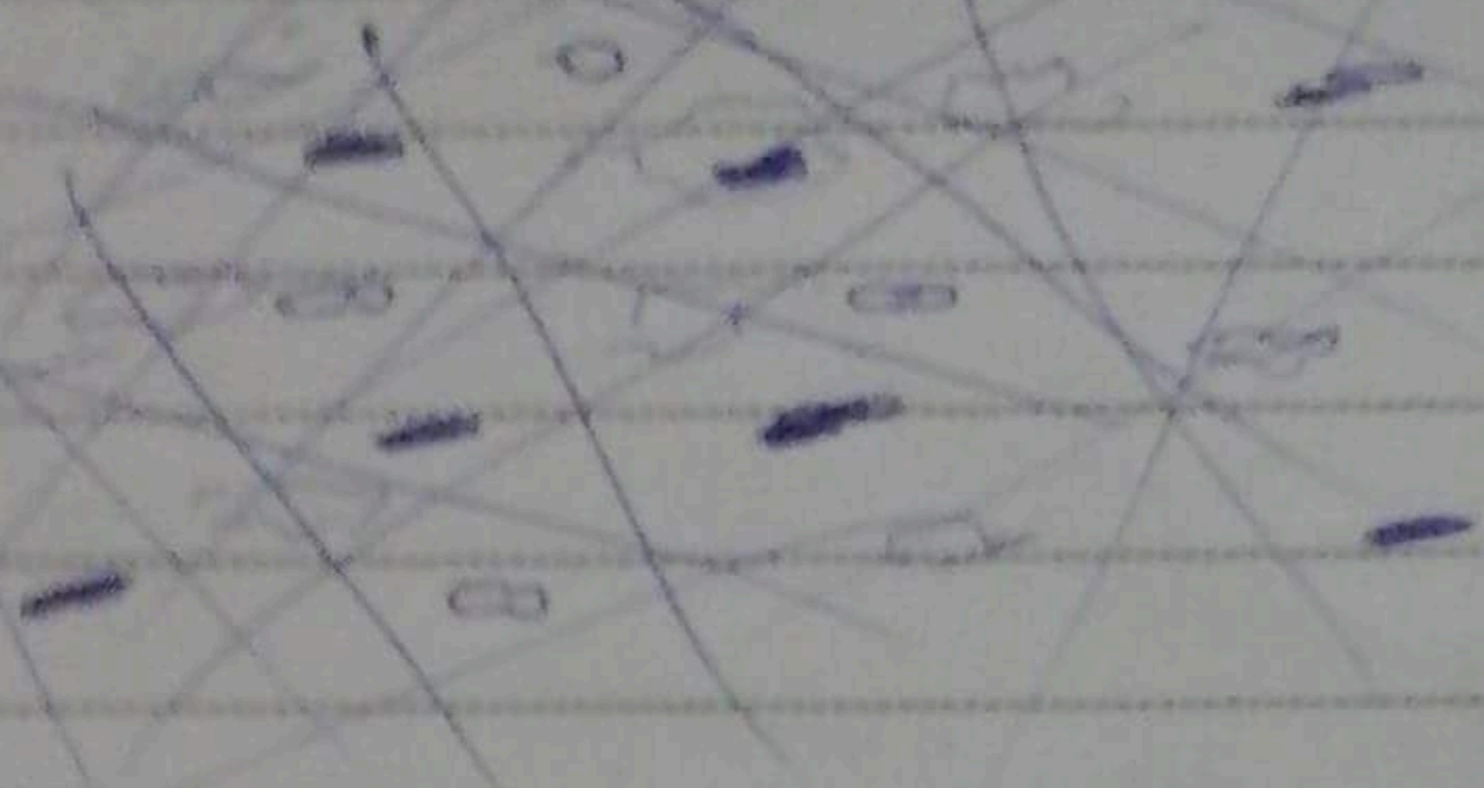


(3) cardiac muscle ✓

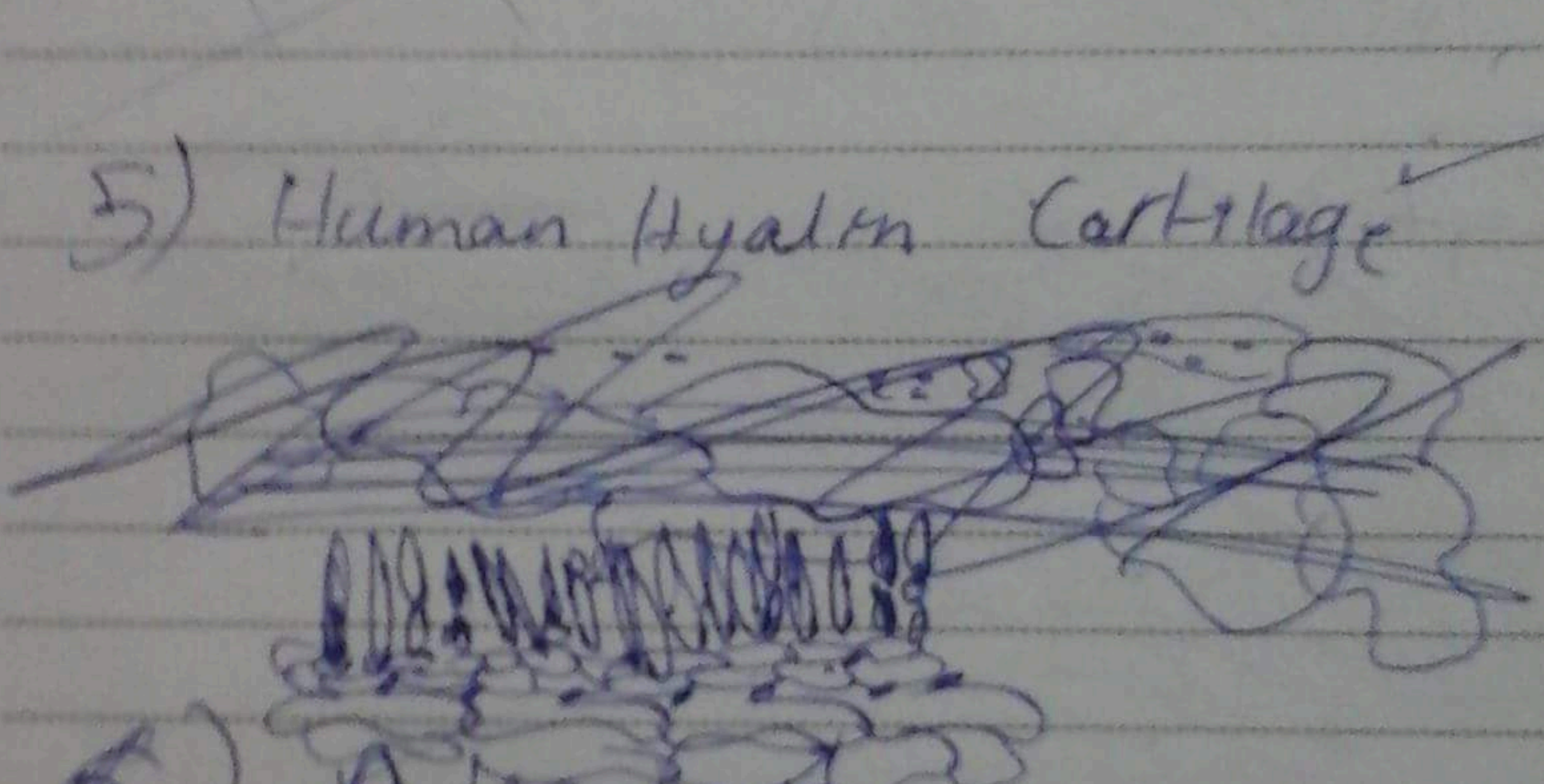
striated



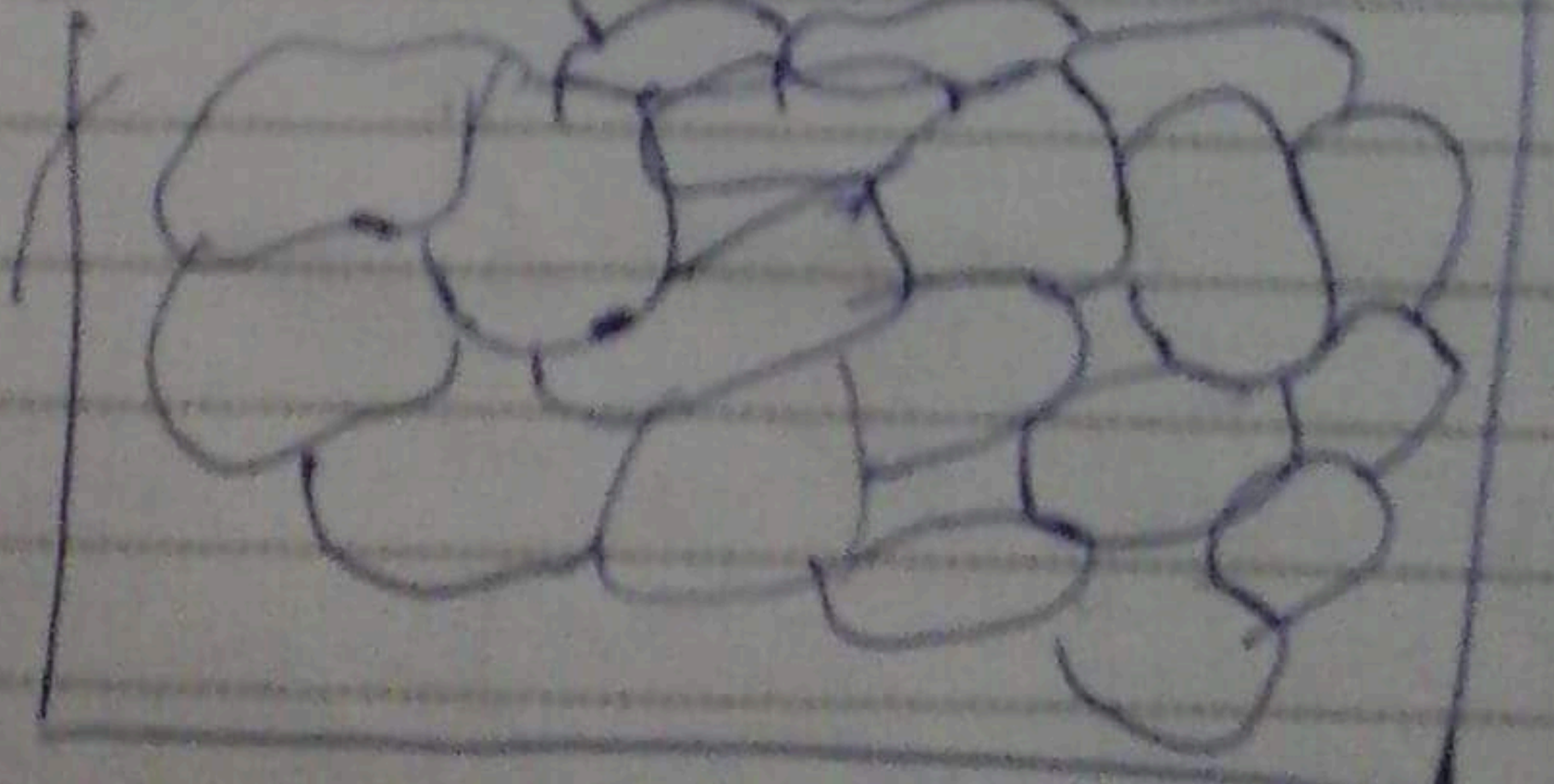
4) Areolar connective tissue



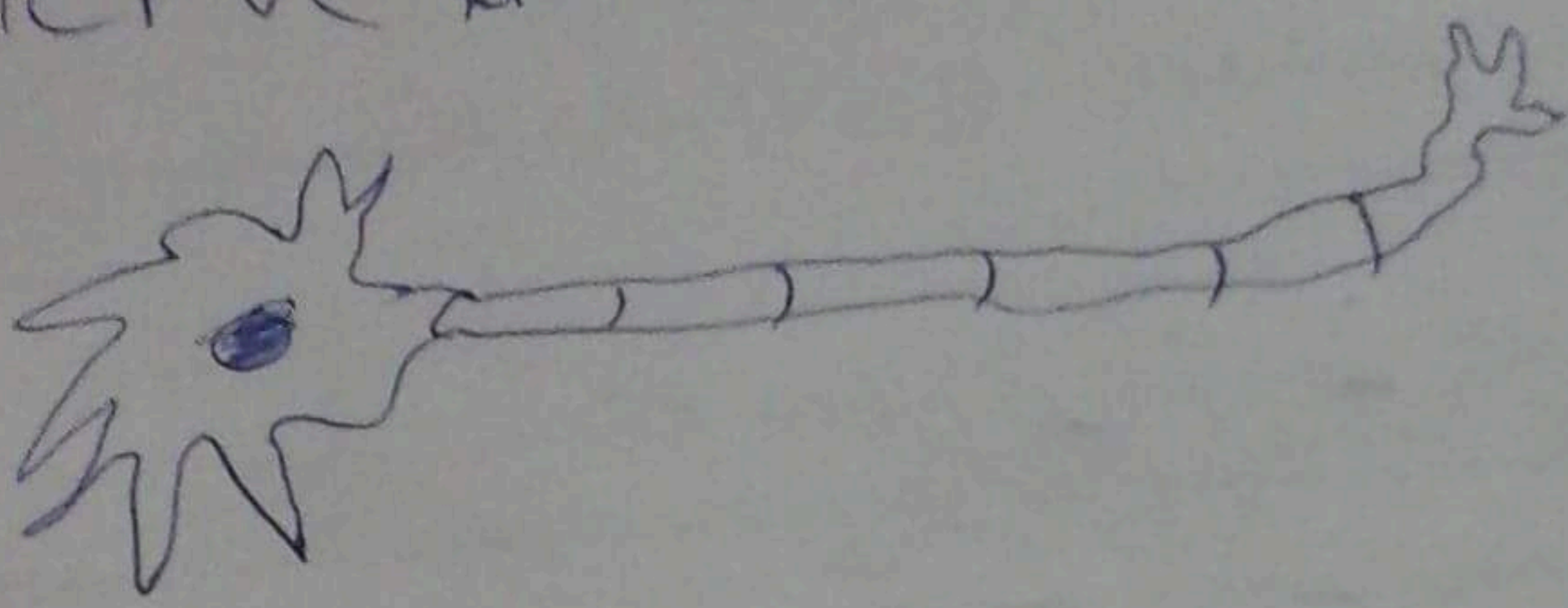
5) Human Hyalin Cartilage



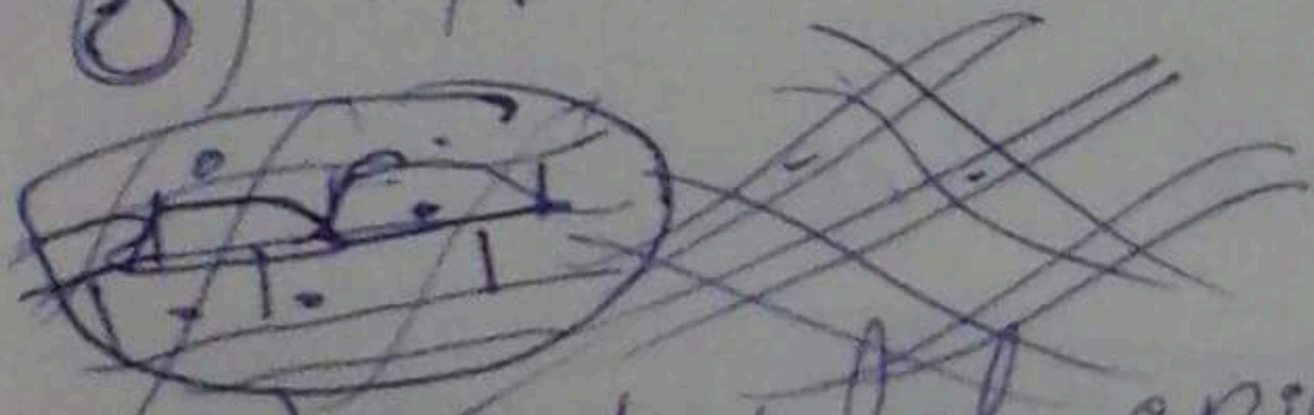
6) Adipose tissue

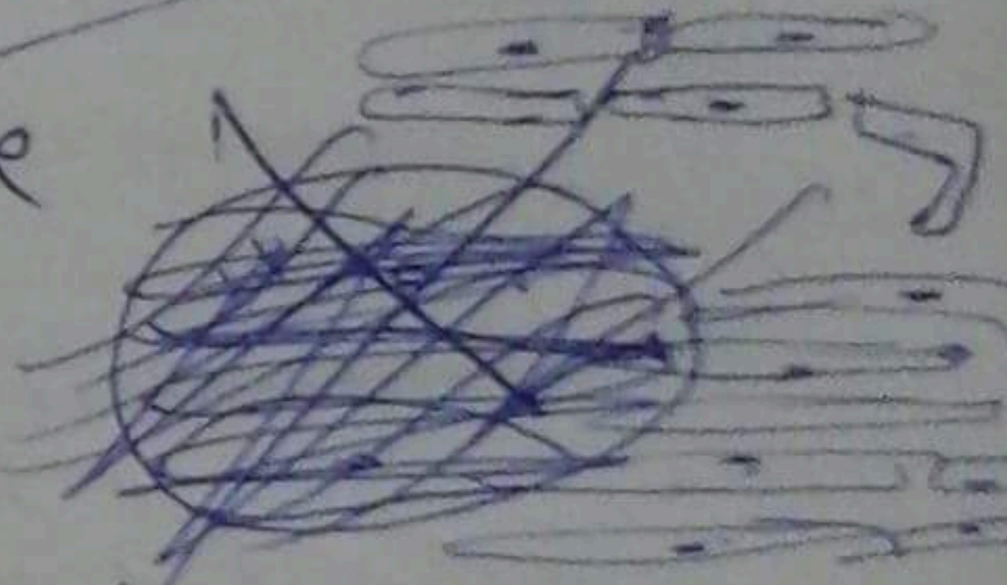


7) Nerve tissue ✓

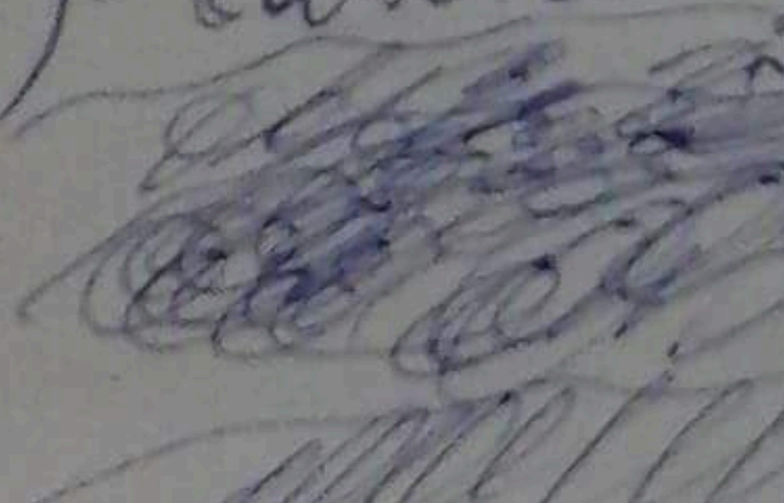


8) Skeletal Muscle

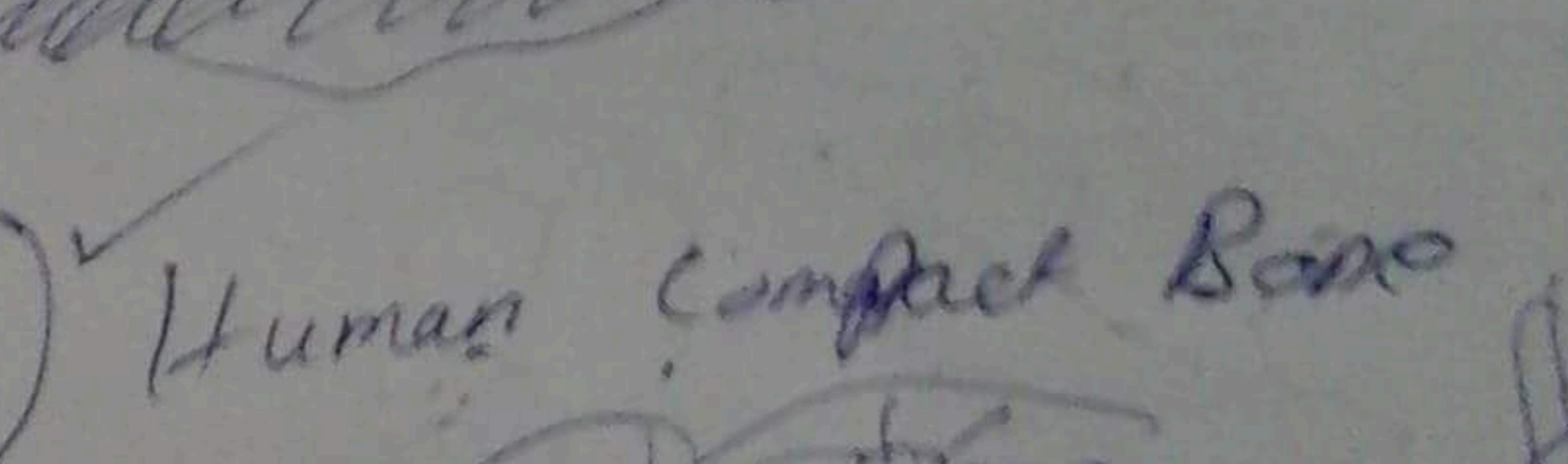




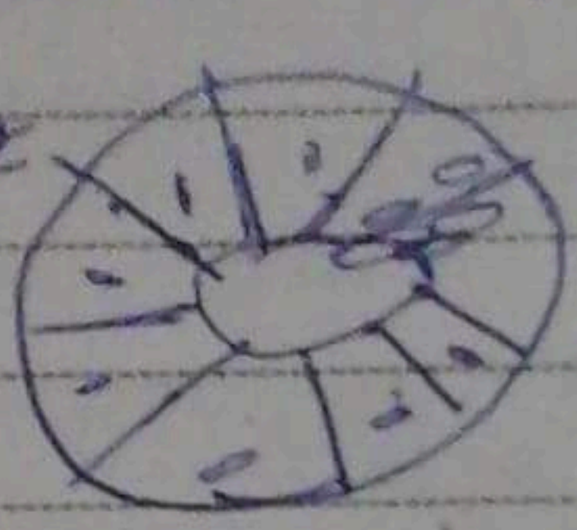
9) Cuboidal epithelium

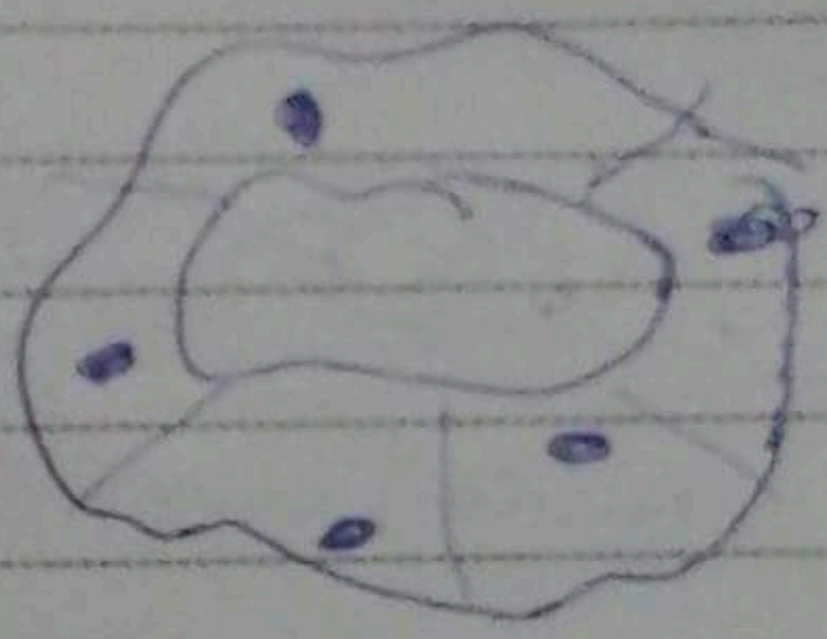


10) Human compact Bone

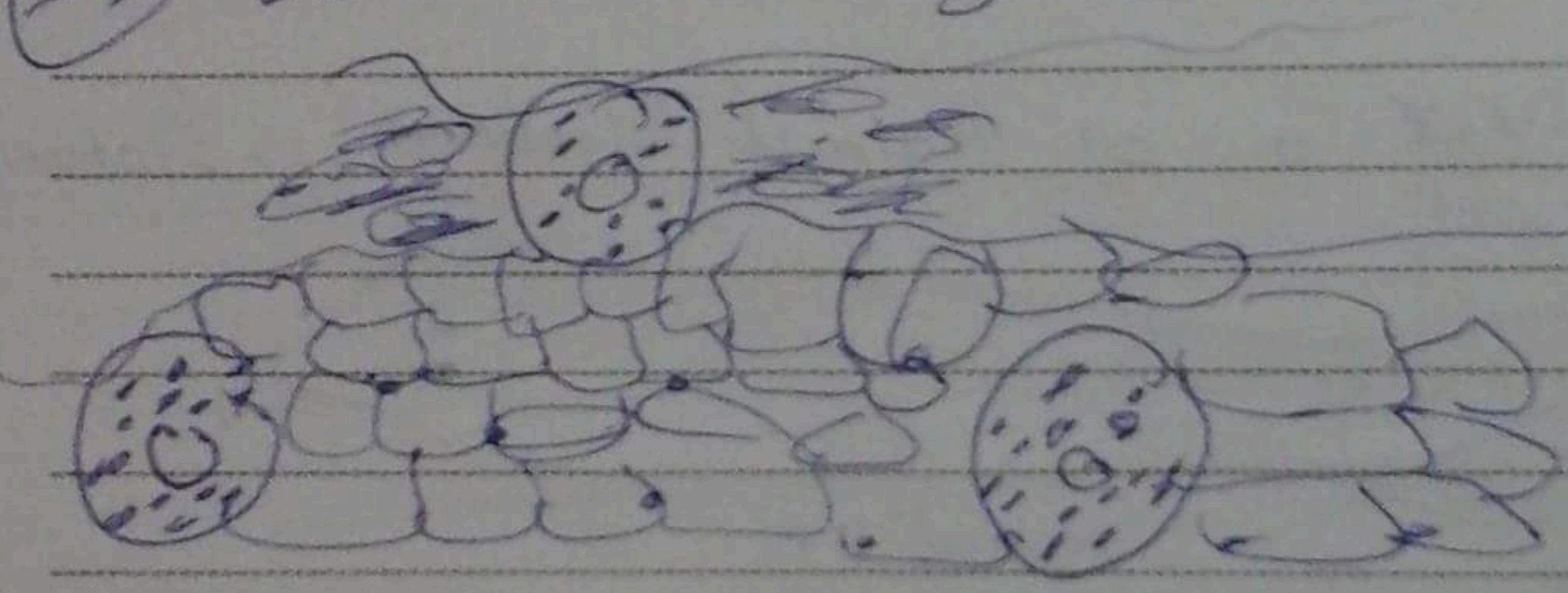


(1) Columnar Epithelium

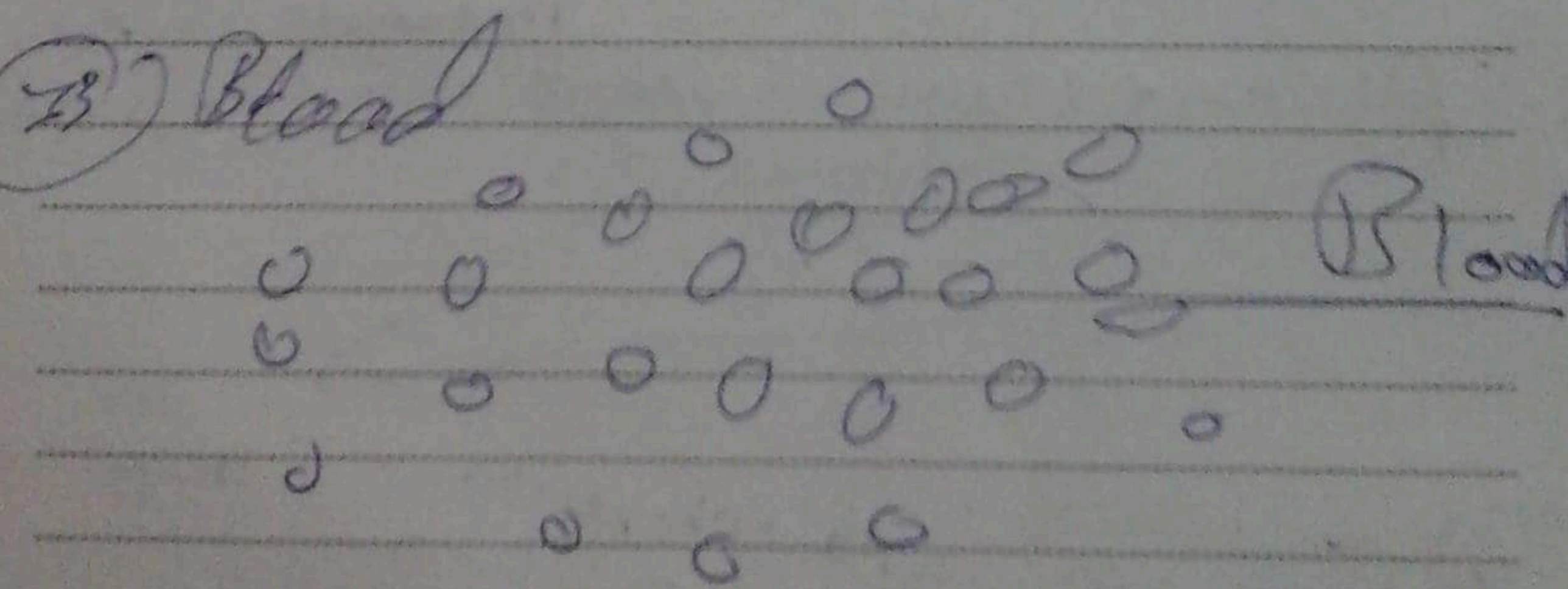




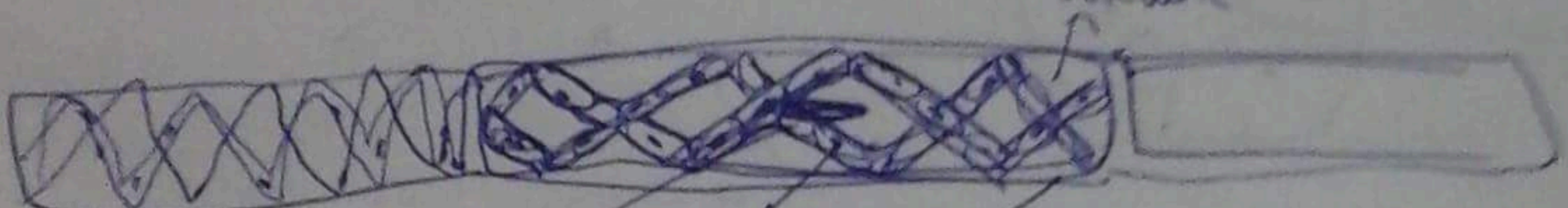
(2) Elastic Cartilage



(3) Blood

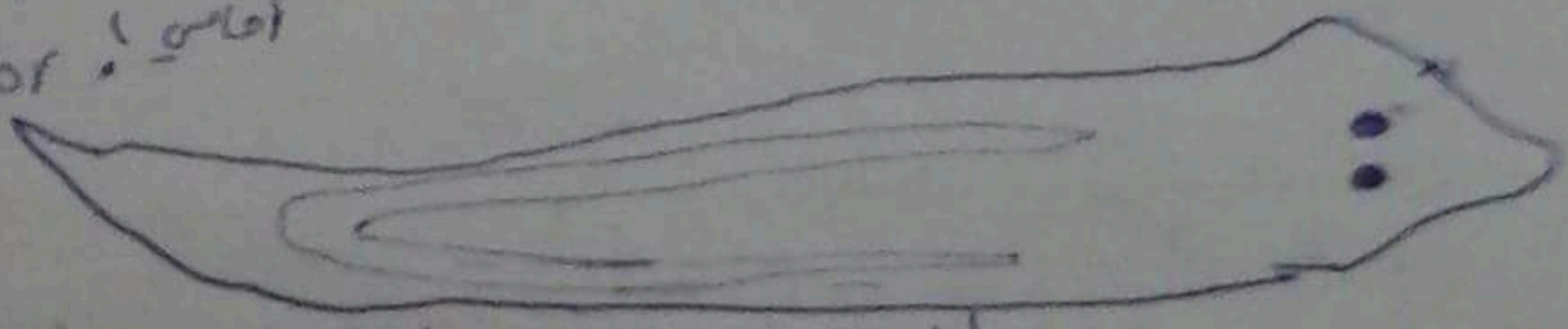


Ex: ⓵ Spirogyra ⇒ plant kingdome



⓶ Planaria ⇒ Animal kingdome :: flatworm

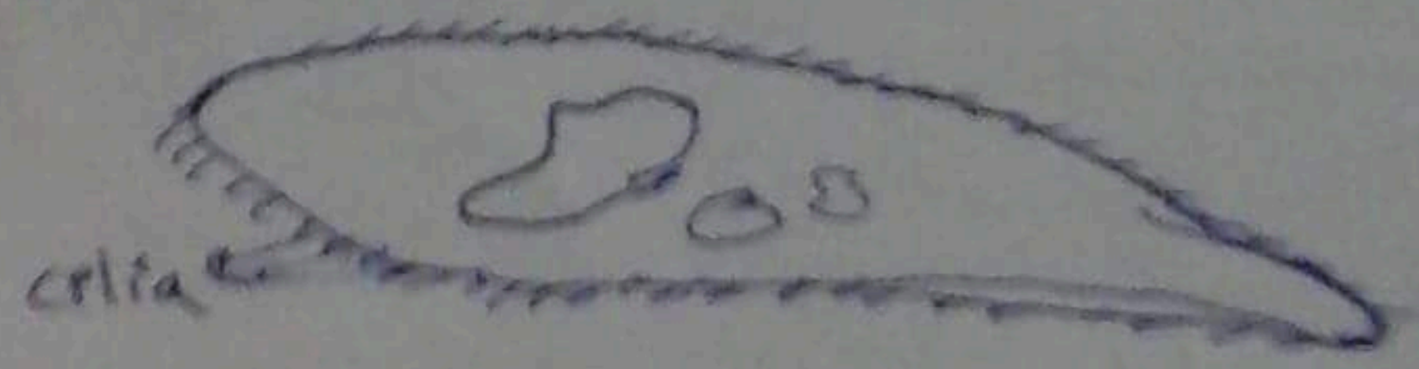
Anterior : أمامي



Posterior : خلفي
Dorsal : ظهري
Ventrial : بطني

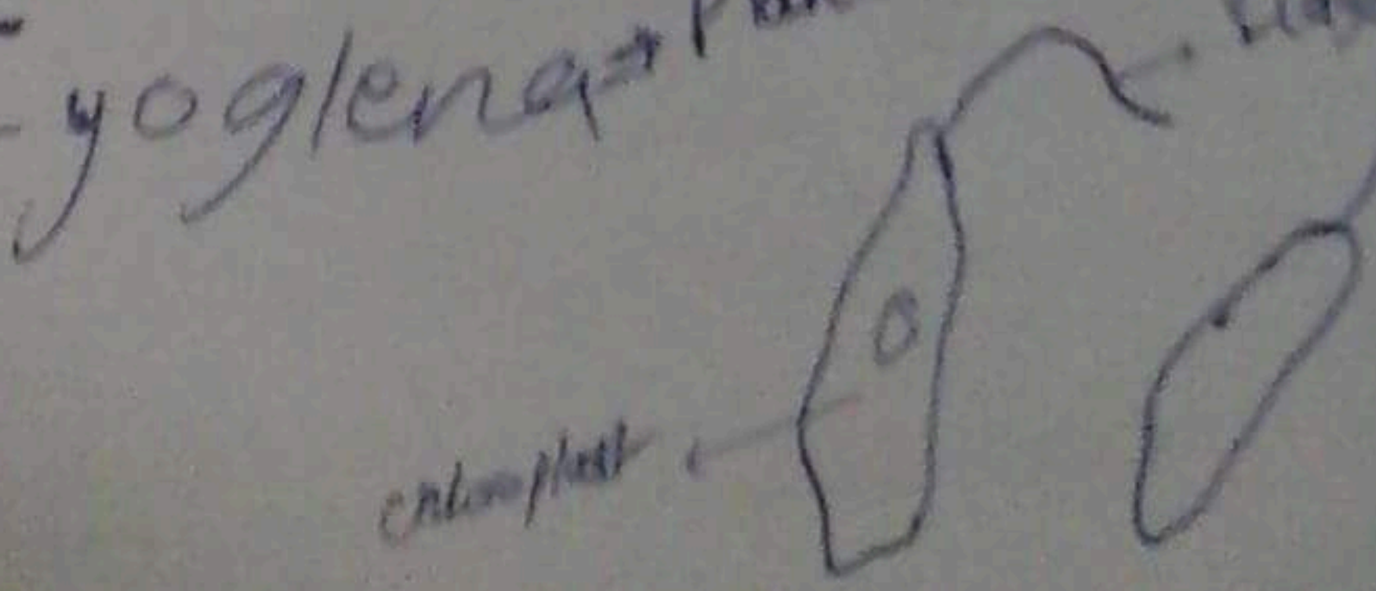
Parasitic Animal like protist

⓷ Paramecium ⇒ ~~Plants~~



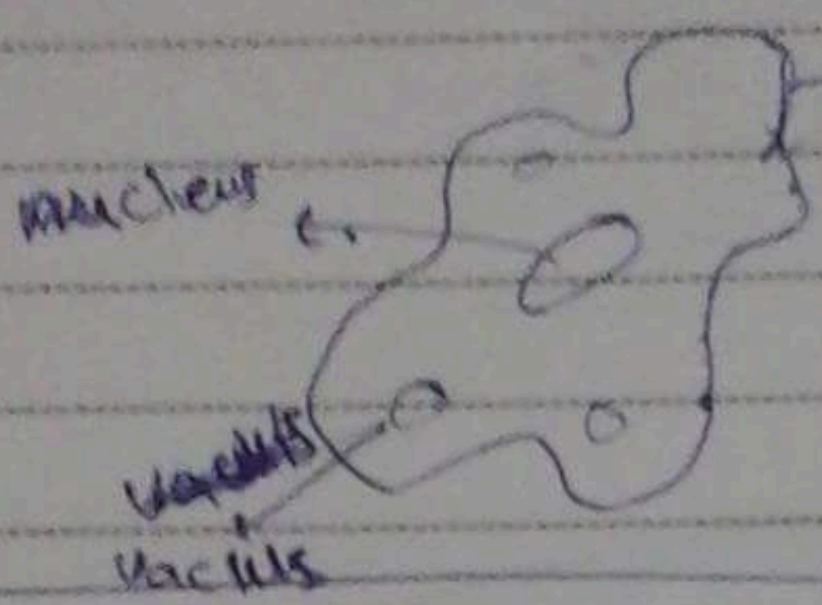
Heterotroph

⓸ Euglena ⇒ Plant like protist



~~Protozoa~~ Eukarya

(5) Amoeba ⇒ Animal like protists



طريقة الاسم العلمي ستخدم

اسم النوع + الاسم الجنس

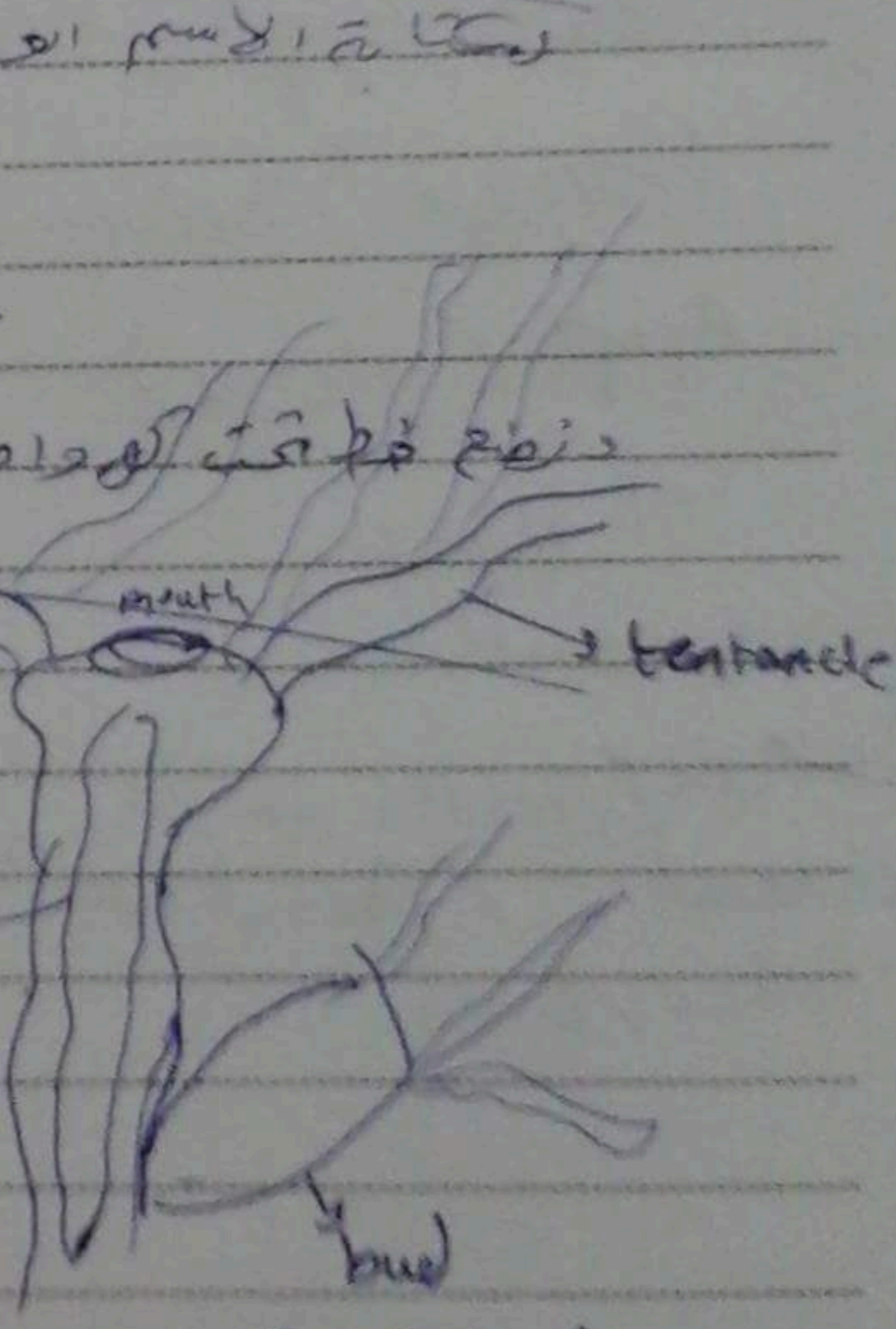
Capital letter

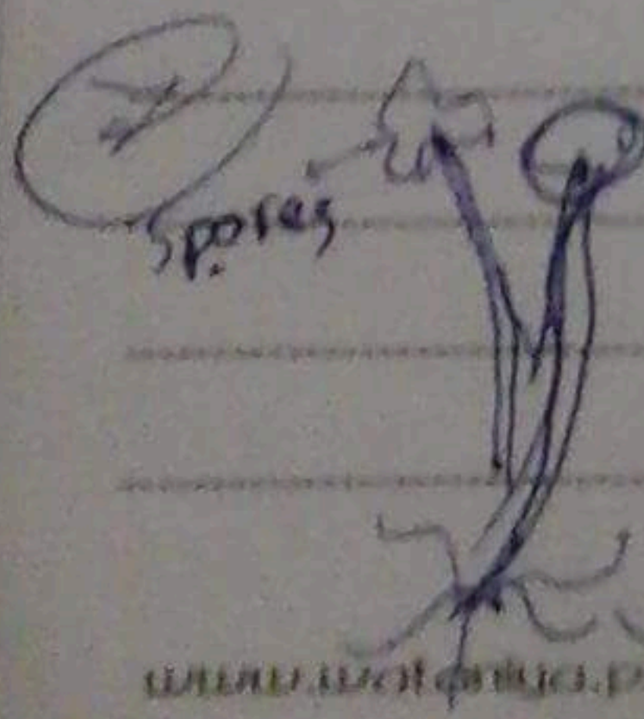
(6) Hydra ⇒ Animalia

ينتمي لـ phylum cnidaria

متجوف

gastrovascular cavity



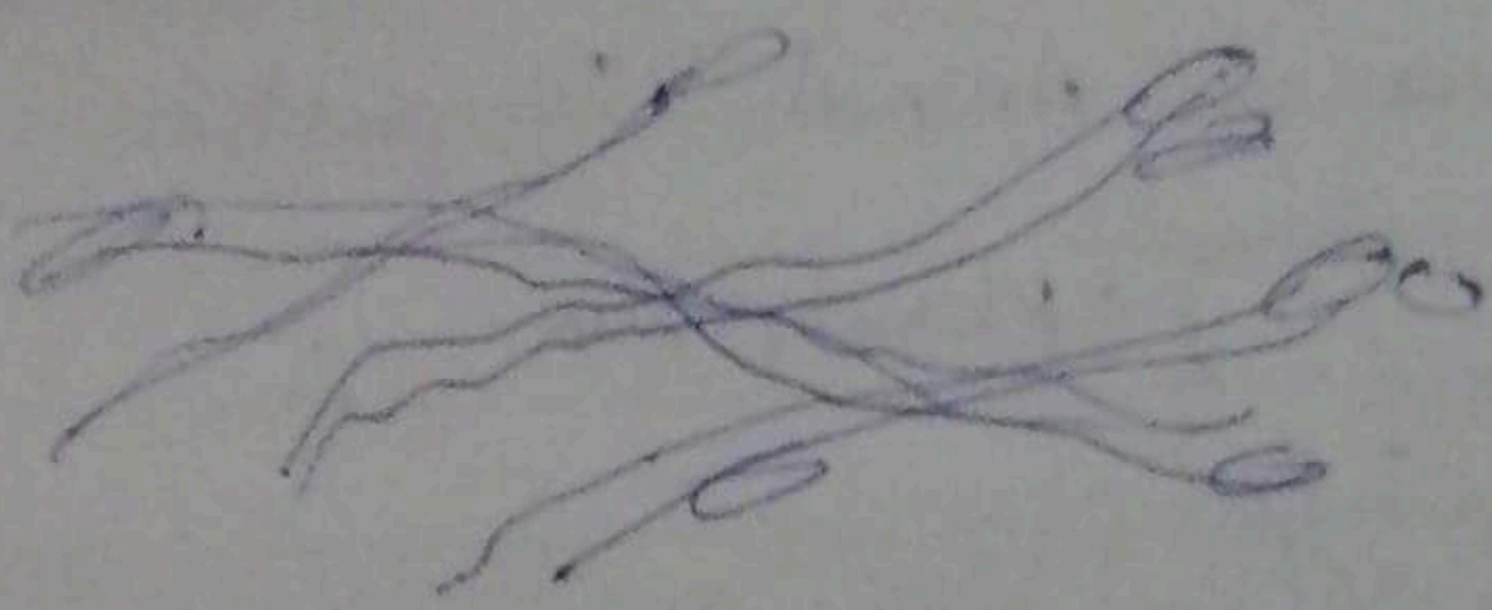


يوجد بعضها انثى ♀

وبعضها ذكر ♂

fungi

(1) bread mold:



Earthworm

Mouth / septa

Pharynx / Coelom

crop / gizzard

Intestine

Spermatheca

Cuticle / Aortic arches

Ventral / Dorsal blood

vessel / brain

Ascaris

Coelom

mouth

cuticle

pharynx

intestine

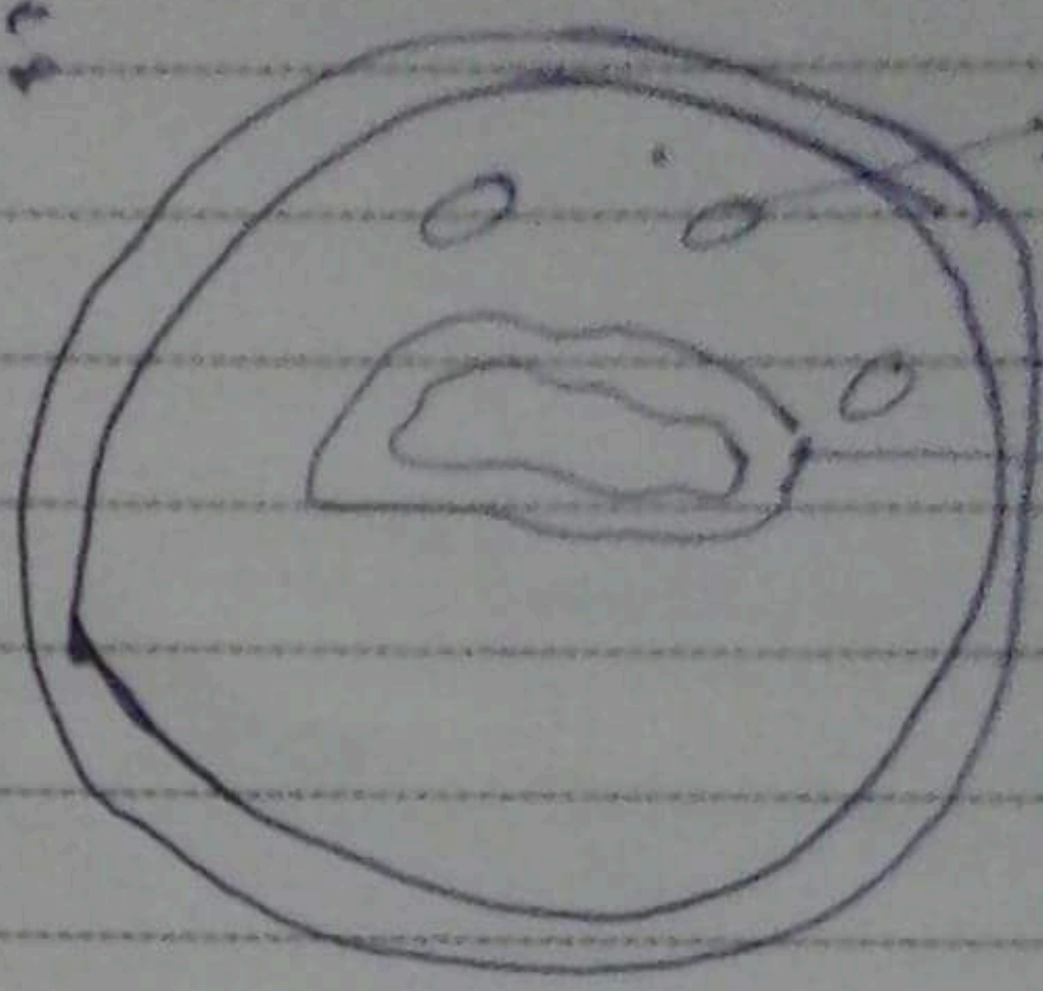
Ovary

Oviduct

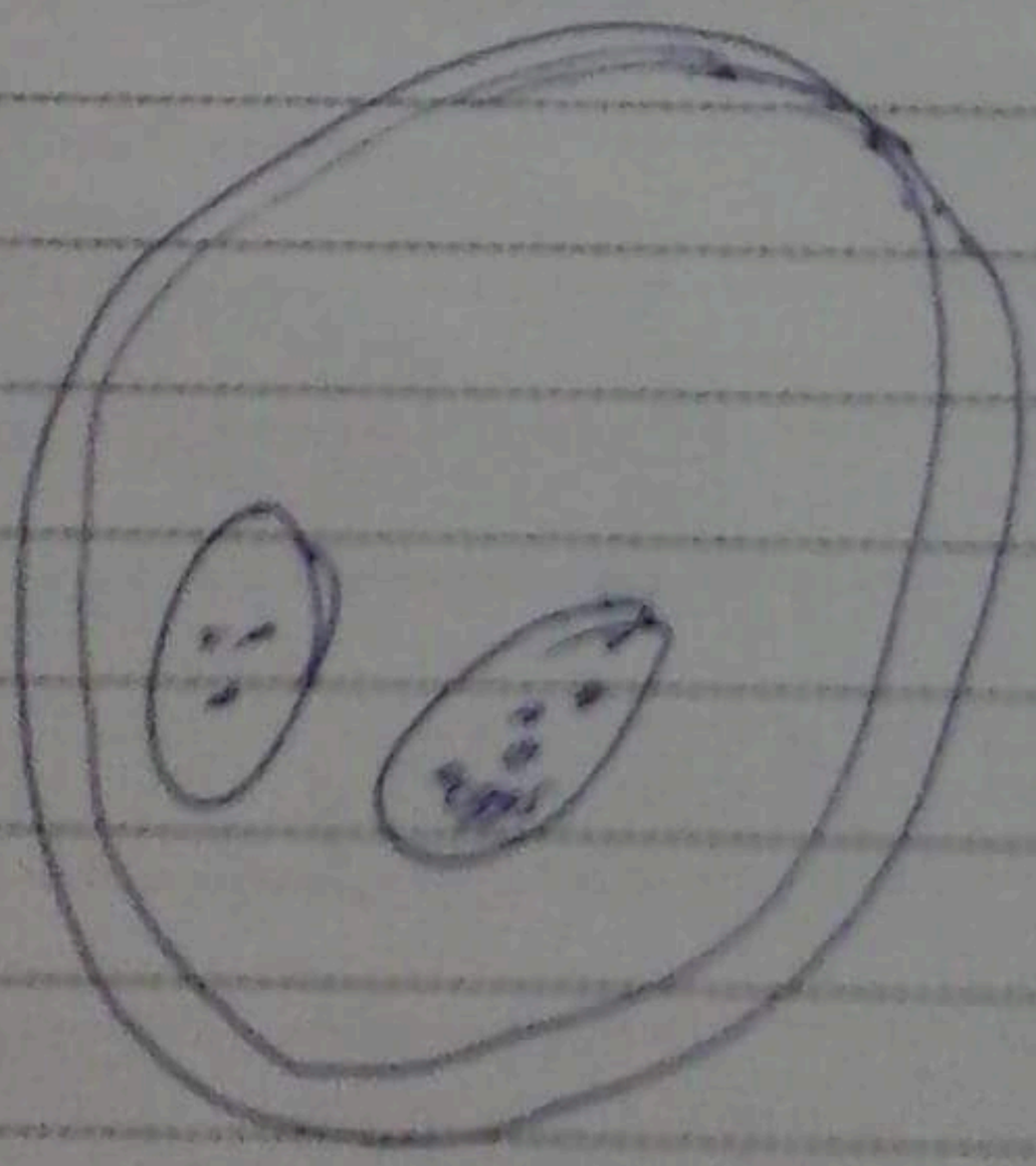
EXP 10 :

cross section:

A) Male Ascaris :



B) Female Ascaris:



www.wataniya.ps