

Life processes

i) (P) How does lymph function as a middle man?
Lymph acts as middle man which transports food materials, Oxygen, hormones etc. to the body cells & ~~recovers~~^{brings} CO_2 & other metabolic wastes from the body cells of blood.

ii) What are lymphocytes and why do we need them?

A lymphocyte is type of WBC that is part of the immune system. It produce antibodies that are used to attack invading bacteria, viruses & toxins.

iii) With respect to composition how is blood different from lymph?

Blood contains RBCs, WBCs, platelets and plasma which constitute water, proteins, hormones, O_2 , CO_2 , glucose, salts, enzymes, where as lymph is clear to which is clear to white fluid tissue which is composed of lymphocytes & WBCs, it has less protein than blood.

Q) How does lymph helps in fat absorption?

The lymphatic system has tiny lacteals in this part of the intestine that forms part of the villi. These finger like protruding structures are produced by the tiny folds in the absorptive surface of the gut. Lacteals absorb fats and fat soluble vitamins to form a milky white fluid called chyle.

Q) Leakage of blood from the vessels reduce pumping efficiency. how?

- If blood leakage is not controlled then bleeding may lead to shock or even death.
- Massive leakage of plasma from blood vessels into neighboring body cavities & muscles may lead to a sharp drop in the blood pressure level & if not treated it can lead to organ failure and death.

Q) Explain the significance of peristalsis in the process of digestion. Which organ is involved in it?

Peristalsis moves nutrients & waste through the intestine. Most nutrient absorption from the food we eat occurs in the small intestine. When chyme passes from the stomach into the small intestine, peristalsis shifts it back and forth & mix it with digestive enzymes & fluid.

Organs involved in peristalsis is - oesophagus, stomach, small intestine, large intestine, rectum.

Q) How does blood

a) transport gases

b) regulate ~~blood~~ body temp.

c) helps in body defence.

a) O_2 is transported by RBCs in blood & the remaining gets dissolved in the plasma. CO_2 molecules are transported in the blood from body tissues to the lungs by dissolution directly into blood, or binding with haemoglobin.

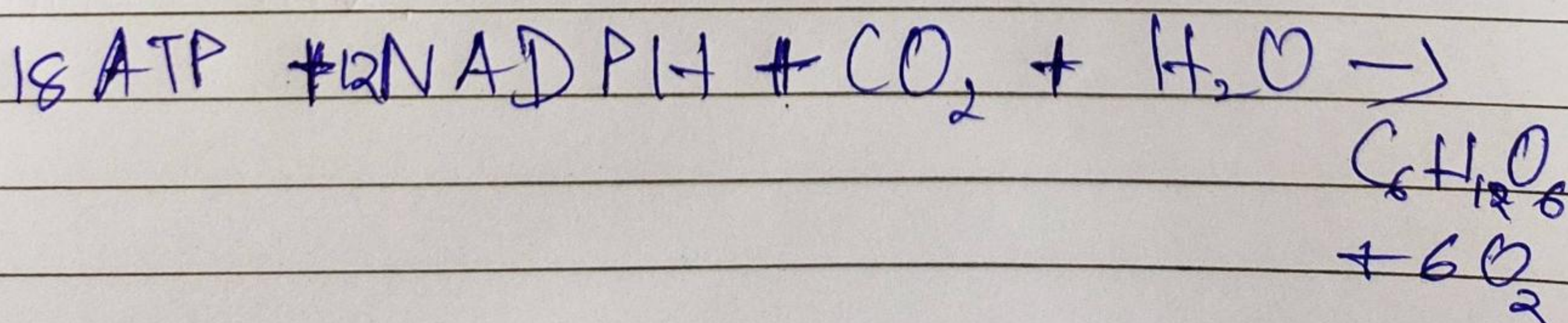
b) Blood absorbs and distributes heat throughout the body. It helps to maintain homeostasis through the release or conservation of warmth.

c) WBCs move through blood & tissue throughout your body, looking for foreign invaders such as bacteria, viruses & parasites & fungi. When they find them, they launch an immune attack.

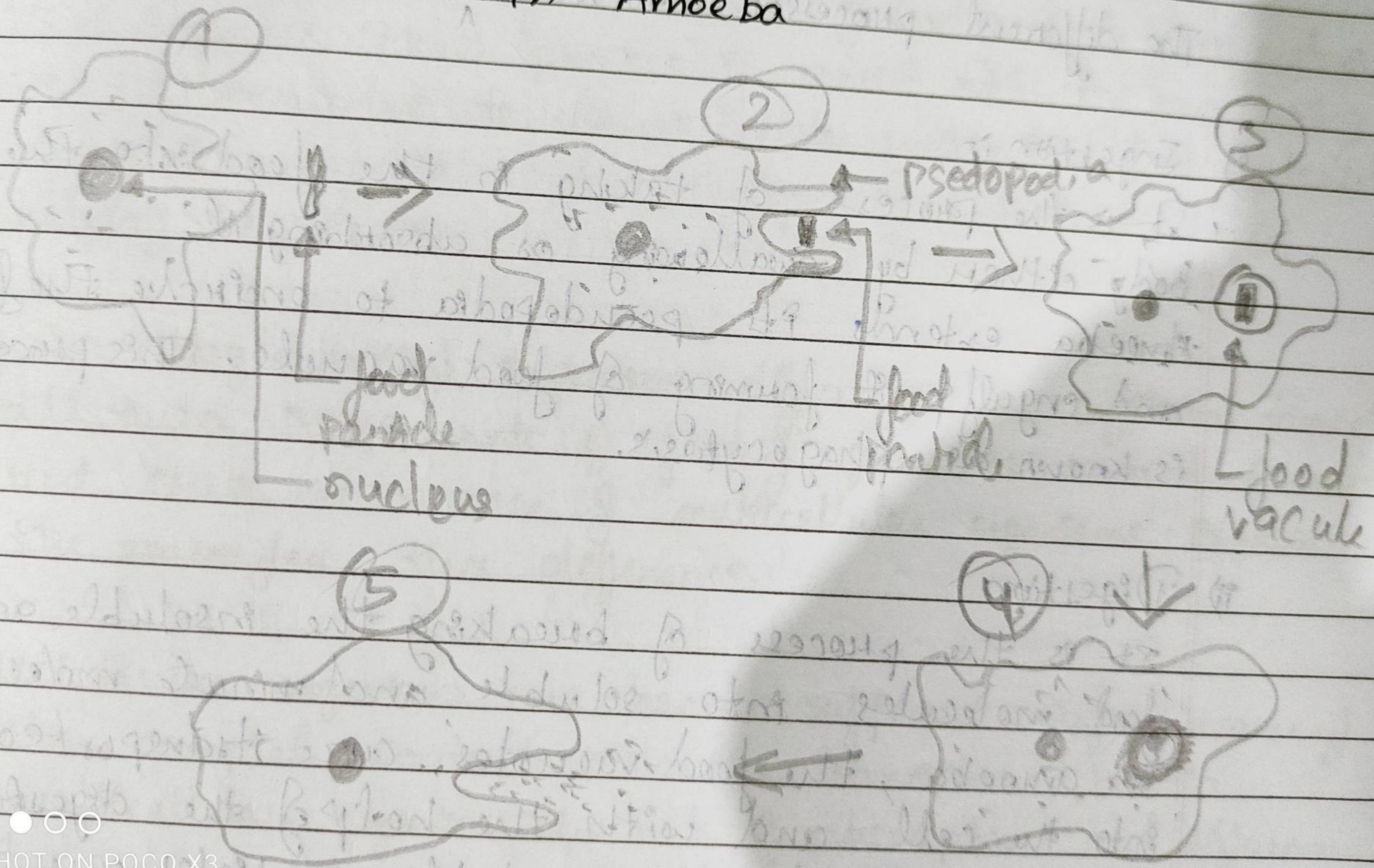
d) What is dark reaction? Where does it occur? Write the chemical reaction.

Dark reaction is a light independent process in which sugar molecules are formed from CO_2 & water molecules.

It occurs in the stroma region of chloroplast.



Holozoic nutrition in Amoeba



SHOT ON POCO X3

The different processes involved in ^{holozoic nutrition in} amoeba are:

i) Ingestion :-

It is the process of taking in the food into the body either by swallowing or absorbing it.

Amoeba extends its pseudopodia to encircle the food and engulfs it forming a food vacuole. This process is known as phagocytosis.

ii) Digestion

It is the process of breaking the insoluble and large food molecules into soluble and minute molecules. In amoeba, the food vacuoles are transported deeper into the cell and with the help of the digestive enzymes, the larger insoluble particles are broken down to the simplest molecules.

iii) Absorption

In this process of absorption, the ~~nutrients~~ nutrients from the digested food material are absorbed into the cell's cytoplasm by leaving behind the undigested particles. This process is called diffusion. The excess food is stored in the form of glycogen and lipids.

iv) Assimilation

Assimilation is the process of obtaining energy from the absorbed food ~~particle~~ molecules. In amoeba, absorbed food molecules are utilized for producing the energy required to carry out different life processes within the cell.

Photosynthesis

Respiration

- (i) It is an anabolic process in which food is synthesised & energy is stored.
- (ii) It is a catabolic process in which food is broken down & energy is released.
- (iii) It absorbs CO_2 & releases O_2 .
- (iv) It absorbs O_2 & releases CO_2 .
- (v) CO_2 & H_2O act as raw materials for photosynthesis.
- (vi) Glucose & O_2 act as raw materials for respiration.
- (vii) It takes place inside the chloroplast of the leaves.
- (viii) It takes place in cytoplasm & mitochondria of the cell.