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Case Based

1) i) How does lymph function as a middle man?

A Lymph acts as middle man which transports food materials, O_2, hormones etc. to the body cells. 27
bring CO_2 & other metabollic wastes to the blood from the body.

(ii) What are lymphocytes & why do we need them?

A They are the type of WBCs which are a part of the immune system. They help in killing the foreign substances that enter our body.

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

A Blood is composed of WBC, RBC, platelets & plasma whereas lymph is composed of interstitial spaces.

(iv) How does lymph help in fat absorption?

The lymphatic system absorbs the fat & fat soluble vitamins from the digestive system followed by transport of these fats to the blood circulation.

Q7(i) Why is excretion necessary in an Organism?

A Excretion is necessary to remove harmful metabolic wastes from the body for its proper functioning.

(ii) Name any two later used for human welfare.

A Rubber gloves, tires.

(iii) How does transpiration occur?

A When plants open its stomata to let in CO_2, the water on surface of the cells of mesophyll evaporate & diffuse out of the leaf. This is how transpiration occur in plants.

(iv) What are secondary metabolite?

They are organic compounds produced by bacteria, fungi or plants which are not directly involved in normal growth or development of an organism.

Two Marks

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

A Peristalsis helps the food to move from the mouth to the stomach through Oesophagus.

2) How does translocation takes place?

A Translocation is the ~~transport~~ of products of ~~from~~ photosynthesis from ~~plants to~~ leaves to the rest body parts. Food molecules enter the part of phloem called sieve tubes where they can be transported upwards or downwards.

3) Breathing cycle is a ~~rey~~ rhythmic while gaseous exchange is a continuous process. Justify.

A- Breathing cycle involves inhalation & exhalation of air due to alternate expansion & contraction of thoracic cavity & hence is a rythmatic process but exchange of gases is a continuous process as it takes place between the blood & each & ~~every~~ every cell of the body through diffusion.

4) What is the functional unit of kidney? Explain regulation of Urine formation.

A Nephron is the functional unit of kidney.

Ultrafiltration occurs in glomerulus under high pressure forcing many of the substances dissolved in blood into the Bowman's capsule. The blood then passes through the tubular part of nephron where useful substances such as glucose, amino acids, salts & major amount of water are selectively reabsorbed & Urine is formed.

5) Leakage of blood from vessels reduce pumping efficiency. How?

A We having a closed circulatory system leakage of blood from vessels can lead to reduced supply of blood & O_2 to the heart which will subsequently reduce the exchange of gases & transportation to different parts of body leading to a reduced pumping efficiency.

Three Marks

1) How does blood
a) Transport gases
b) Regulate body temp.
c) Helps in body defence.

The O_2 & CO_2 bind with haemoglobin in blood ~~& trans~~ forming Oxygenated & deoxygenated blood respectively & ~~the~~ help in transport of gases.

Blood absorbs & distributes heat throughout the body & helps to maintain homeostasis through the release of or conservation of warmth.

WBC present in blood helps to fight the foreign substances that enter our body.

2) Differentiate between photosynthesis & respiration.

A

Photosynthesis	Respiration
* It takes place only in sunlight.	* It takes place throughout the day.
* Occurs in plants only.	* Occurs in all living organisms.
* Takes place in chloroplast	* Takes place in mitochondria
* Undergoes Anabolic process.	* Undergoes Catabolic process.
* By-products - glucose, O_2 & H_2O.	* By-products - CO_2, H_2O & energy (ATP)

3) Explain Nutrition in Amoeba.

Amoeba is a unicellular organism. The mode of nutrition is holozoic. It engulfs the food when it comes with contact with its cell surface by ingestion. Pseudopodia fuses over the food particle

to form a food vacuole. Inside the food vacuole complex food breaks into small soluble molecules & gets readily absorbed by cytoplasm & the undigested food material is eliminated out.

4) What is dark reaction? Where does it occur? Write its chemical reaction.

It is a series of biochemical reaction which occurs one after other in cyclic manner & converts CO_2 into carbohydrate by utilizing of ATP & NADPH. This reaction occurs in the stroma part of the chloroplast.

$$CO_2 + ATP + NADPH \longrightarrow C_6H_{12}O_6 + RuBP + NADP + ADP.$$