

Hw-10/7/21

Q1) Discuss the advantages and disadvantages of a closed circulatory system.

• Advantages of a closed circulatory system.

- (i) It is efficient in delivering oxygen throughout an organism.
- (ii) It provides more power in the form of pressure.
- (iii) It has a lymphatic system that works separately.

Disadvantages of a closed circulatory system.

- (i) It is more complex than the open circulatory system.
- (ii) It requires more energy for blood distribution.

Q2) The digestive system of humans is intermediate between that of ~~carnivore~~^{strict} carnivores and that of strict herbivores. How might you expect your digestive system to be different if we had fed exclusively on plant tissues throughout our evolutionary history?

- The digestive system of human beings is intermediate between herbivores & the carnivores.
- So, the digestive system in human beings would have certain features:-
 - (i) The teeth of herbivores are flatter and have apparently less sharpness to them in comparison to carnivores who have pointed teeth for tearing flesh. Therefore, the teeth of human beings would be more like herbivores rather than having sharp canines.
 - (ii) The carnivores have more acidic stomach for better digestion of proteins, than herbivores. So, humans eating only plant product would have less acidic stomach.
 - (iii) Certain herbivores have special bacteria in their gut for digesting cellulose out of plant foods. This might have been present in humans before evolving into omnivores.
 - (iv) Herbivores process energy from the plant products that they eat and carnivores get the energy from herbivores.

3. Explain why we become warm during ~~exercise~~ exercise and explain the usefulness of ~~shivering~~ shivering when

It is cold?

We become warm when we exercise because at that time, our heartbeat increases for which the blood is pumped in high pressure and glucose oxidises to produce more and more energy as well as heat but as we don't get time to radiate the heat, our body temperature increases gradually.

Our body ~~temperature~~ needs to maintain a bit to function properly. ~~Shiver~~ Shivering is an involuntary pattern of repetitive ~~as~~, rhythmic muscle contractions. So, when it gets cold, we start to shiver. We feel cold, sensors from the skin send messages to our brain informing that we need to warm up, then our muscles tighten and loosen really fast to generate heat so that we can overcome extreme coldness.

4) State whether true or false.

a. The loss of water vapour ~~is~~ by a plant is called transpiration.

True

b. Translocation is the transportation of the products of photosynthesis.

True

~~(c)~~ (c) Stretching of inner walls of guard cells, open the stomata. True

(d) Arteries are the widest blood vessels. True

(e) Bowman's capsule is found in the heart. False