[class - 10]

Assignment - 1 (Digestion & Respiration)

1- Name two inorganic substances which are used by autotrophs to make food.

2- In addition to carbon dioxide and water, state two other conditions necessary for the process of photosynthesis to take place.

3- The leaves of a plant first prepare food A by photosynthesis. Food A then gets converted into food B. What are A and B?

4- Name an animal whose process of obtaining food is called phagocytosis.

5- What substances enter into the food vacuole in Amoeba to break down the food?

6- Name one organism which can live without oxygen.

7- Name the process by which plant parts like roots, stems, and leaves get oxygen required for respiration.

8- What is the name of the extensions of the epidermal cells of a root which helps in respiration?

9- Name an animal which absorbs oxygen through its moist skin.

10- The trachea divides into two tubes at its lower end. What is the name of these tubes?

11- Name the type of respiration in which the end products are:

(a) C_2H_5OH and CO_2

(b) CO_2 and H_2O
(c) Lactic acid

12- (a) Define a nutrient. Name four important nutrients present in our food.
(b) What are the various types of heterotrophic nutrition?

13- (a) Photosynthesis converts energy X into energy Y. What are X and Y?
(b) State the various steps involved in the process of photosynthesis?

14- What substances are contained in gastric juices? What are their functions?

15- What substances are contained in pancreatic juices? What are their functions?

16- What is common for cuscuta, ticks and leeches?

17- Differentiate between aerobic and anaerobic respiration.

18- How is haemoglobin associated with respiration? Explain.

19- With the help of labelled diagram, discuss the structure of cross-section of a leaf.

20- How are lungs designed in human beings to maximize the area of exchange of gases.

21- How is small intestine designed for the absorbtion of the digested food.

22- What are the different ways in which glucose is oxidized to provide in various organisms? (to be written in the form of chart)

23- How does respiration in plants differ from that in animals?

24- Discuss the mechanism of respiration in human beings.

25- Discuss the mechanism of digestion in human beings.

26- How does nutrition takes place in Amoeba?

Date: / /
Page No:

[Class - 10]

Assignment - 2 (Transportation, Circulation & Excretion)

1- During contraction of heart, what prevents backflow of blood?
2- Name excretary organs in amoeba and earthworm.
3- Which blood vessel contains only deoxygenated blood?
4- What is the filteration units of kidney?
5- Which of them contain less nitrogenous wastes - renal vein or renal artery?
6- Name the largest artery of body.
7- Which of the four chambers of the human heart has the thickest muscular walls?
8- What do you mean by double circulation of blood?
9- What is the difference blw arteries and veins?
10- State two vital functions of kidney.
11- What is the role of glomerulus in kidney?
12- What are the modes of excretion in plants?

SARAA

Date: / /
Page No:

13- What are the components of transport system in human beings? What are the functions of these components?

14- Compare the functioning of alveoli in the lungs and nephron in the kidney with respect to their structure and functioning.

15- Describe the process of circulation in human beings.

16- What substances are transported in plants by :

(a) Xylem vessels and tracheids?

(b) Sieve tubes (or phloem)?

17- Veins and arteries carry blood. Which of these carry blood :

(a) away from the heart?

(b) back to the heart?

18- Where does blood absorb oxygen?

19- What stops blood from flowing backwards through the heart?

20- Name the conducting tissue in plants which is made of —

(a) living cell and sieve tubes along with companion cells.

(b) dead cells.

SARAA

Date: / /
Page No:

21- What happens to the glucose which enters the nephron tubule along with the filtrate?

22- (a) What is transpiration?
(b) What do you mean by 'translocation' with respect to transport in plants?
(c) Which plant tissue involved in translocation : xylem or phloem?

23- (a) What job is done by the kidneys?
(b) What do kidneys excrete?
(c) What is the names of the tubes which connect the kidneys to bladder?
(d) What does the bladder in our body do?

24- A dialysis machine contains long tubes coiled in a tank containing dialysing solution:
(i) Of what substance are the tubes made?
(ii) What does the dialysing solution contain?
(iii) Name the main waste which passes into the dialysing solution.

25- (a) What are the upper parts of heart called?
(b) What are the lower parts of heart called?
(c) What is the name of blood vessels

SARAA

Date: / /
Page No:

which connect arteries to veins?

(d) (i) Which side of the heart pumps blood into lungs?

(ii) Which side of the heart pumps blood into entire body?

26- (a) What is lymph? State two major functions of lymph.

(b) What is meant by saying that blood pressure of a person is 120/80?

27- What is hypertension? Why is it caused? What harm can it do?

28- What are the various components of blood? State their functions.

29- With which human organ systems are the following associated?

(i) Vena cava (ii) Glomerulus

(iii) Alveoli (iv) Villi

30- What is meant by 'systolic pressure' and 'diastolic pressure'? What are their normal values?

31- (a) Name the red pigment which carries oxygen in the blood.

(b) Why is it necessary to seperate oxygenated and deoxygenated blood in mammals and birds?

Date: / /
Page No:

(c) How many chambers are there in the heart of: (i) an amphibian (ii) a mammal (iii) a fish ?

(d) Describe the circulatory system in fish.

32- (a) What is lymphatic system? What are its functions?

(b) What is blood pressure? What are the two factors used to express the blood pressure of a person ?

(c) Name the main nitrogenous waste in the human blood. How is it removed from the blood ?

33- (a) Name the various organs of the human excretory system.

(b) Draw a neat labelled diagram of the human excretory system.

(c) What is the function of excretory system in humans?

34- (a) Describe the mechanism of urine formation in human excretory system.

(b) Where is urine carried through ureters?

35- (a) What is dialysis? What type of patients are put on dialysis?

(b) Explain principle of dialysis with labelled diagram.

SARAA