BIOLOGY

BOOKS - U-LIKE BIOLOGY (HINGLISH)

LIFE PROCESSES

N C E R T Q Uestions A Questions Given On Page Number 95 Of The Textbook

1. Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans ?

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2. What criteria do we use to decide whether something is alive ?

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3. What are outside raw materials used by an organism ?

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4. What processes would you consider essential for maintaining life ?

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N C E R T Q Uestions B Questions Given On Page Number 101 Of The Textbook

1. What are the differencess between autotrophic nutrition and heterotrophic nutrition ?

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2. Where do plants get each of the raw materials required for photosynthesis ?

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3. What is the role of the acid in our stomach ?

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4. What is the function of digestive enzymes ?

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5. How is the small intesting designed to absorb digested food ?

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N C E R T Q Uestions C Questions Given On Page Number 105 Of The Textbook

1. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaning oxygen for respiration ?

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2. What are the different ways in which glucose is oxidised to provide energy in various organisms ?

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3. How is oxygen and carbon dioxide transported in human beings ?

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4. How are the lungs designed in human beings to maximise the area for exchange of gases ?

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N C E R T Q Uestions D Questions Given On Page Number 110 Of The Textbook

1. What are the components of the transport system in human beings ? What are the functions of these components ?

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2. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds ?

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3. What are the components of the transport system in highly organised plants ?

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4. How are water and minerals transported in plants ?

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5. How is food transported in plants ?

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N C E R T Q Uestions E Questions Given On Page Number 112 Of The Testbook

1. Describe the structure and functioning of nephrons.

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2. What are the methods used by plants to get rid of excretory products ?

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3. How is the amount of urine produced regulated ?

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N C E R T Exercises

1. The kidneys in human beings are a part of the system for

A. nutrition

B. respiration

C. excretion

D. transportation

Answer: C

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2. The xylem in plants are responsible for

A. transport of water

B. transport of food

C. transport of amino acid

D. transport of oxygen

Answer: A

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3. The autotrophic mode of nutrition requires

A. carbon dioxide and water

B. chlorophyll.

C. sunlight

D. All the above

Answer: A::B::C::D

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4. The breakdown of pyruvate to give carbon dioxide, water and energy takes place in

A. cytoplasm

B. mitochondria

C. chloroplast

D. nucleus

Answer: A::C::D

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5. How are fats digested in our bodies ? Where does this process take place

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6. Wht is the role of salive in the digestion of food ?

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7. What are the necessar conditions for autotrophic nutrition and what are its by-products ?

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8. What are the differences between aerobic and anaerobic respiration ? Name some organisms that use the anaerobic mode of respiration .

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9. How are the alveoli designed to maximise the exchange of gases ?

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10. What would be the consequences of a deficiency of haemoglobin in our bodies ?

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11. Describe double circulation in human beings. Why is it necessary ?

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12. What are the differences between the transport of materials in xylem and phloem ?

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13. Compare the functioning of alveoli in the lungs and nephrons in the kidneys with respect to their structure and functioning .

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Case Based Source Based Integrated Questions

1. Answer question numbers (a) -(d) on the basis of your understanding of the following paragraph and the related studied concepts :

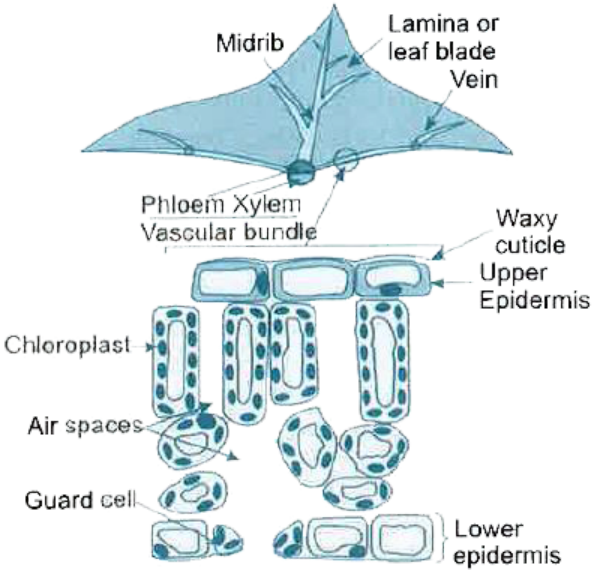
If you carefully observe a cross-section of a leaf under the microscope shown in Fig. 6.4, you will notice that some cells contain green dots. These green dots are cell organelles called chloroplasts which contain chlorophyll.

(a) What is the role of these dots that contain chlorophyll.

(b) What is the main difference you see between upper and lower epidermis ?

(c) What is the role of air spaces ?

(d) Name the layer of cells that contain chloroplasts.



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2. Answer question numbers (a) - (d) on the basis of your understanding of the folllowing paragraph and the related studied concepts :

The digested food is taken up by the walls of the intestine. The inner lining of the small intestine has numerous finger-like projections called villi which increase the surface area for absorption. The villi are richly supplied with blood vessels which take the obsorbed food to each and

every cell of the body, where it is utilised for obtaining energy, building up new tissues and the repair of old tissues .

(a) Which step of nutrition in man is taking place in the small intestine ?

(b) What is the role of villi ?

(c) Where does utilisation/assimilation of digested foot take place ?

(d) Where else will you find villi ?

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3. Answer question numbers (a) - (d) on the basis of your understanding of the following paragraph and the related studied concepts :

• Take some freshly prepared lime water in a test tube.

• Blow air through this lime water .

• Note how long it takes for the lime water to turn milky.

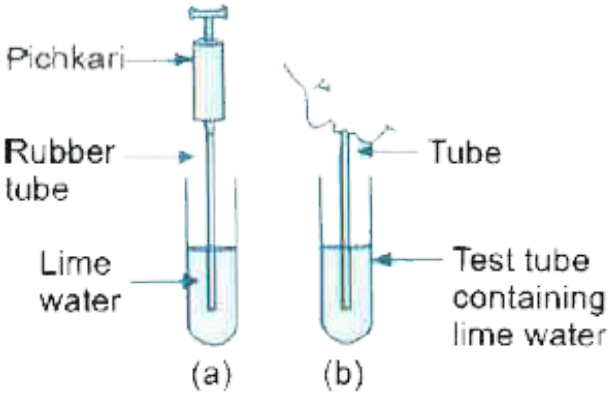
• Use a syringe or pichkari to pass air through some fresh lime water taken in another test tube.

(a) What change would you expect in figure 'a' and 'b' ?

(b) Why do you observe the change in 'b' ?

(c) What is the source of this component ?

(d) State the significance of this activity.



(*a*) Air being passed into lime water with a pichkari/syringe,
(*b*) air being exhaled into lime water

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4. Answer question numbers (a) - (d) on the basis of your understanding of the following paragraph and the related studied concepts :

ATP is the energy currency for most cellular processes. The energy relased during the process of respiration is used to make an ATP molecule from ADP and inorganic phosphate.

$$ADP + (P) \xrightarrow{\text{Energy}} ADP\text{~}(P) = ATP$$

(P) : Phosphate

Endothermic processes in the cell then use this ATP to drive the reactions. When terminal phosphate linkage in ATP is broken using water. The energy equivalent to 30.5 kJ/mol is released . Think of how a battery can provide energy for many different kinds of uses. It can be used to obtain mechanical energy , light energy, electrical energy and so on. Similarly, ATP can be used in the cells for the contraction of muscles, protein synthesis, conduction of nervous impulses and many other activities.

(a) How does ATP act as energy currency of the cell ?

(b) Which is the site of synthesis of ATP in a cell ?

(c) Is it same in prokaryotes and eukaryotes ?

(d) From where is energy released during respiration ?

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5. Answer question numbers (a) - (d) on the basis of your understanding of the following paragraph and the related studied concepts :

The separation of the right side and the left side of the heart is useful to keep oxygenated and de-oxygenated blook from mixing. Such separation alllows a highly efficient supply of oxygen to the body. This is useful in

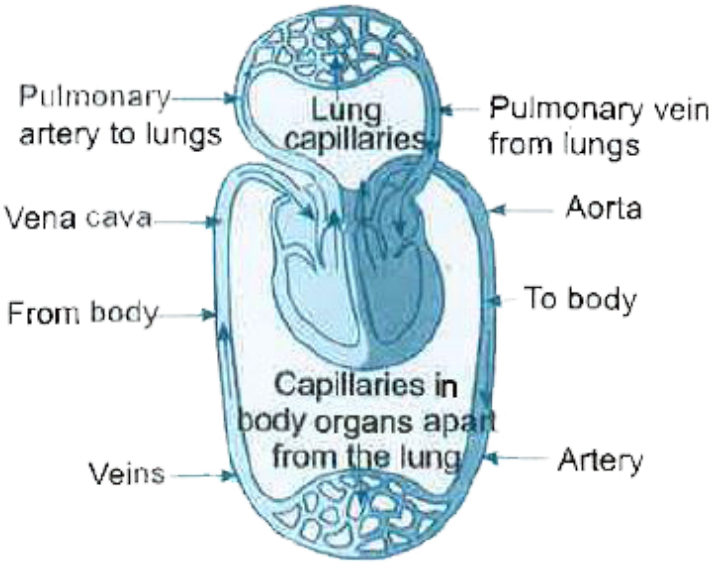
animals that have high energy needs, such as birds and mammals, which constantly use energy to maintain their body temperature. In animals that do not use energy for this purpose, the body temperature depends on the temperature in the environment . Such animals, like amphibians or many reptiles have three- chambrered hearts, and tolerate some mixing of the oxygenated and de-oxygenated blood streams. Fishes, on the other hand, have only two chambers to their hearts, and the blood is pumped to the gills, is oxygenated there, and passes directly to the rest of the body.

(a) What does the give diagram depict ?

(b) In which type of organisms would you find this type of transportation ?

(c) Explain why some animals like fishes have only two chambered heart ?

(d) From this study what can you deduct about evolution ?



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6. Answer question numbers (a) - (d) on the basis of you understading of the following paragraph and the related studied concepts :

Plant transport systems will move energy stores from leaves and raw materials from roots. These two pathways are constructed as independently organised conducting tubes . One the xylem moves water and minerals obtained from the soil. The other, phloem transports products of photosynthesis from the leaves where they are synthesised

to other parts of the plant. Unlike transport in xylem which can be largely explained by simple physical forces, the translocation in phloem is achieved by utilising energy.

(a) Why is the need for transport system in plants ?

(b) What are the components of tissues involved in transportation in plants ?

(c) In what form is the photosynthetic produce transported and stored ?

(d) Though transport in xylem is mainly due to physical forces, translocation in phloem uses energy. Explain .

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7. Answer question numbers (a) - (d) on the basis ofyour understading of the following paragraph and the related studied concepts :

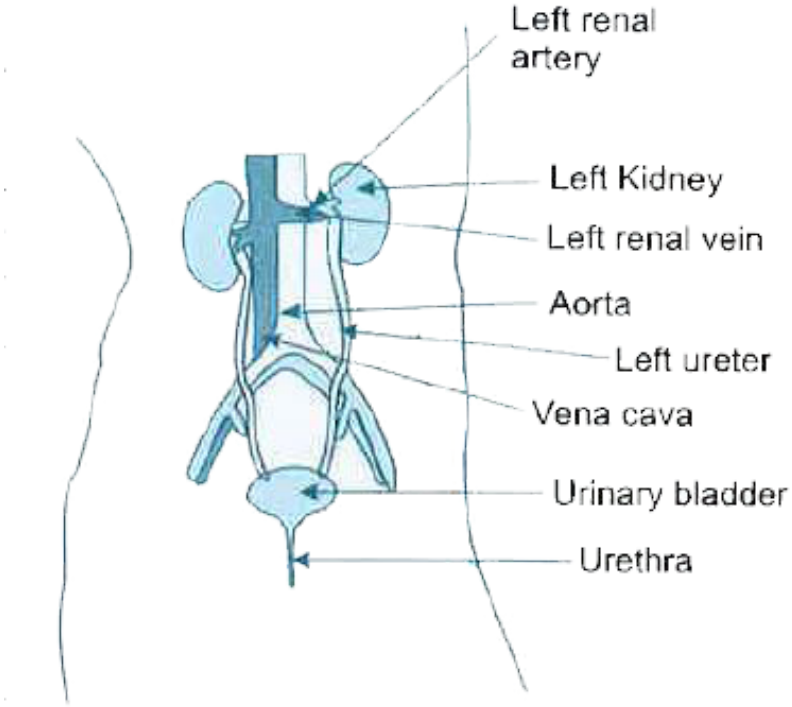
The excretory system of human beings includes a pair of kidneys, a pair of ureters, a urinary bladder and a urethra. Kidneys are located in the abdomen, one on either side of the backbone. Urine produced in the kidneys passes through the ureters into the ureters into urinary bladder where it is stored until it is released through the urethra.

(a) Between Renal artery and Vera cava (Renal Vein) which one carriers more impurities ?

(b) How's the expulsion of urine regulated ?

(c) How frequently is urine produced and sent into the urinary bladder ?

(d) How is urine production is human body different from dialysis, though both the procedurers are helping in removal of impurities from the body ?



Excretory system in human beings

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8. Answer question numbers (a) - (d) on the basis of your understanding of the following paragraph and the related studied concepts :

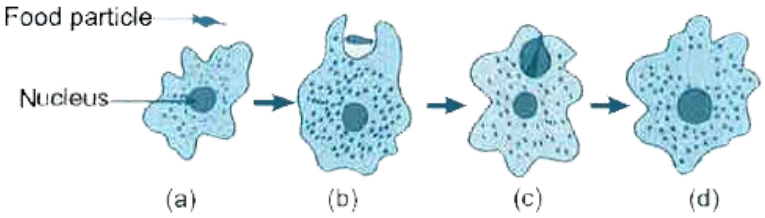
The given diagram shows a unicellular organism capturing its food .

(a) What type of nutrition is shown in the diagram ?

(b) Give another function of the specialised extension shown in 'b'

(c) How is nutrition shown in the given diagram different from that in Paramecium, which is also unicellular ?

(d) Give appropriate term for taking is solid food by the given organism ?



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9. Answer question numbers (a) - (d) on the basis of you understading of the following paragraph and the related studied concepts :

Following is the chart showing blood pressure and pulse rate of a 30 years old person, during the day. Study the table and answer the

questions that follow :

Time	Blood Pressure (mm of Hg)	Pulse rate
$6am$	$1107/0$	68
$9an$	$120/70$	72
12 noon	$160/90$	90
3 noon	$120/70$	72
$6pm$	$120/70$	72
$9pm$	$120/70$	70

(a) Give your opinion on the readings.

(b) What is the cause behind sudden hike in BP and pulse rate ?

(c) Explain its action.

(d) What explains the reading at 3 pm ?

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Multiple Choice Questions

1. In which group of the organism listed below food material is broken down outside the body and absorbed ?

A. Tapeworm, Amoeba, Paramecium

B. Cuscuta, Mosquito, Tapeworm

C. Rhizopus, Mushroom, Yeast

D. Mushroom, Rhizopus, Green plants

Answer: C

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2. Movement of food through the oesophagus is due to

A. lubrication by salive.

B. peristalsis

C. diffusion

D. turgor pressure

Answer: B

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3. Oxygen released during photosynthesis is derived from

A. water

B. carbon dioxide

C. glucose

D. chlorophyll

Answer: A

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4. The common step between aerobic and anaerobic respiration takes place in

A. cytoplasm

B. mitochondria

C. chloroplast

D. golgi complex

Answer: A

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5. Which is the first enzyme to mix with food in digestive tract ?

A. Pepsin

B. Cellulose

C. Amylase

D. Trypsin

Answer: C

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6. In which part of human digestive tract common bile duct opens ?

A. Large intestine

B. Duodenum

C. Stomach

D. Liver

Answer: B

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7. Which of the following protects inner lining of stomach from hydrochloric acid secreted by gastric glands ?

A. Pepsinogen

B. Pepsin

C. Bile juice

D. Mucus

Answer: D

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8. When few drops of iodine were poured on a potato slice, the potato turned blue-black in colour. This indicates that potato contains

A. sugar

B. starch

C. glycogen

D. proteins

Answer: B

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9. Salivary amylase secreted by salivary glands is responsible for which event in mouth ?

A. Break-down of protein in amino acid

B. Break-down of fat in lipids

C. Break-down of starch in sugar

D. Both (b) and (c)

Answer: C

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10. In which part of the alimentary canal complete digestion and absorption of food takes place ?

A. Duodenum

B. Small intestine

C. Colon

D. Stomach

Answer: B

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11. Which one of the following is the correct sequence of anaerobic respiration in muscles during vigorous exercise ?

A. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} \xrightarrow{\text{Mitochondria}} \text{Ethanol} + CO_2$

B. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} \xrightarrow{\text{Cytoplasm}} \text{Lactic acid} + CO_2$

C. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} + CO_2 \xrightarrow{\text{Mitochondria}} \text{Lactic acid}$

D. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} \xrightarrow{\text{Mitochondria}} \text{Lactic acid} + CO_2$

Answer: B

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12. Which one of the following is the most correct sequence in respect of aerobic respiration ?

A.

$\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} + \text{Energy} \xrightarrow{\text{Mitochondria}} CO_2 + H_2O + \text{Energ}$

B. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} + \text{Energy} \xrightarrow{\text{Mitochondria}} CO_2 + H_2O +$

C. $\text{Glucose} \xrightarrow{\text{cytoplasm}} \text{Pyruvate} \xrightarrow{\text{Mitochondria}} CO_2 + \text{Energy}$

D. $\text{Glucose} \xrightarrow{\text{Mitochondria}} \text{Pyruvate} \xrightarrow{\text{Cytoplasm}} CO_2 + H_2O + \text{Energy}$

Answer: A

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13. Which is the correct sequence of parts/organs through which air passes during inhalation ?

A. Nostril $\rightarrow$ Pharynx $\rightarrow$ Larynx $\rightarrow$ Trachea $\rightarrow$ Alveoli

B. Larynx $\rightarrow$ Nostril $\rightarrow$ Pharynx'to' Lungs

C. Trachea passage $\rightarrow$ Nasal $\rightarrow$ Pharynx $\rightarrow$ Larynx $\rightarrow$ Alveoli

D. Nostril $\rightarrow$ Larynx $\rightarrow$ Pharynx $\rightarrow$ Trachea $\rightarrow$ Lungs

Answer: A

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14. In our body during the process of respiration exchange of gases takes place in

A. lungs and throat

B. alveoli and throat

C. alveoli of lungs

D. larynx and lungs

Answer: C

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15. First step in photosynthesis is

A. releases of O_2 and adsorption of CO_2

B. breakdown of water

C. formation of Glucose

D. absorption of light energy by chlorophyll

Answer: D

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16. Which of the following statements (s) is (are) true about respiration ?

(i) During exhalation, ribs move inwards and diaphragm is lowered .

(ii) Exchange of gases takes place in alveoli.

(iii) During inhalation, ribs move outwards and diaphragm is lowered .

(iv) Haemoglobin has greater affinity for carbon dioxide.

A. (i) and (ii)

B. (i) and (iii)

C. (i) and (iv)

D. (iii) and (iv)

Answer: B

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17. Backflow of blood inside the heart is prevented during contraction by

A. thick muscular wall of left ventricle

B. thin walls of atria

C. valves present in heart

D. All of the above

Answer: C

View Text Solution

18. Extra cellular fluid in our tissues is also known as

A. plasma

B. serum

C. lymph

D. albumin

Answer: C

View Text Solution

19. Four statements are given below about human heart . Which one of them is/are correct ?

(i) Right atricle receives deoxygenated blood from different parts of the body while left ventricle pumps oxygenated blood to different parts of body.

(ii) Lift atricle sends oxygenated blood to right ventricle which pumps it to different parts of body.

(iii) Left atricle receives oxygenated blood from different parts of body while right auricle receives deoxygenated blood from lungs.

(iv) Left ventricle pumps oxygenated blood to different body parts while right ventricle pumps deoxygenated blood to lungs.

A. (i) and (iv)

B. (i)

C. (i) and (iii)

D. (ii) and (iv)

Answer: A

View Text Solution

20. In which vertebrate group (s), heart does not pump oxygenated blood to various parts of body ?

A. Pisces

B. Pisces and amphibinas

C. Amphibians

D. Amphibians and reptiles

Answer: A

View Text Solution

21. Which of the following statements is true about srteries ?

A. Arteries possess thick elastic wall without valves inside, blood flows under high pressure and carry blook away from the heart to different parts of the body

B. Thin walls of arteries have valves inside, blood flows with low pressure and carry it away from the heart to different organs .

C. They posses thick elastic walls, blood flows under low pressure and carry blood from the heart to various parts of the body.

D. They to various thick elastic walls, blood flows under high pressure and collect blood from different organs and bring it back to the heart.

Answer: A

View Text Solution

22. Which of the following events does not take place during photosynthesis ?

A. Conversion of light energy to chemical energy

B. Oxidation of carbon to carbon dioxide

C. Reduction of CO_2 to carbohydrates

D. Splitting of water

Answer: B

View Text Solution

23. The food reserve for energy in producesrs (autotrophs) is

A. fat.

B. protein

C. starch

D. glycogen

Answer: C

View Text Solution

24. Tracheal respiration occurs in

A. earthworm

B. insects

C. protists

D. fish

Answer: B

View Text Solution

25. Urea is a nitrogenous excretary product which is formed in

A. kidney

B. liver

C. pancreas

D. intestine

Answer: B

View Text Solution

26. The blood leaving the kidney has

A. more urea and less oxygen

B. less urea and more oxygen

C. less urea less oxygen

D. less urea and less carbon dioxide

Answer: C

View Text Solution

27. To prevent the entry of food into the trachea the opening is guarded by

A. glottis

B. hard palate

C. epiglottis

D. soft palate

Answer: C

View Text Solution

28. Oxygen liberated during photosynthesis comes from

A. CO_2

B. water (H_2O)

C. glucose

D. breakdown of chlorophyll

Answer: B

View Text Solution

29. The opening and closing of stomata is regulated by

A. oxygen concentration in stomata

B. water in guard cells

C. temperature

D. CO_2 concentration in stomata

Answer: B

View Text Solution

30. Which one of the following is the first enzyme to mix with food in digestive tract ?

A. Lipase

B. Pepsin

C. Trypsin

D. Amylase

Answer: D

View Text Solution

31. In which form most of the plants absorb nitrogen from soil ?

(i) Amino acid (ii) Nitrates and Nitrites

(iii) Ammonia gas (iv) Urea

A. (i) and (ii)

B. (ii) and (iv)

C. (i) and (iv)

D. (ii) and (iii)

Answer: B

View Text Solution

32. Sometimes after vigorous exercise you feel cramps in muscles due to

A. non conversion of glucose to pyruvate

B. conversion of glucose to pyruvate

C. conversion of pyruvate to ethanol

D. conversion of pyruvate to lactic acid

Answer: D

View Text Solution

33. Blood pressure is measured by an instrument called

A. Manometer

B. Barometer

C. Anemometer

D. Sphygmomanometer

Answer: D

View Text Solution

34. Which of the following helps in clotting of blood /

A. Erythrocytes

B. Leucocytes

C. Platelets

D. Serum

Answer: C

View Text Solution

35. Which one of the following statement is not correct about lymph ?

A. It is also known as tissue fluid

B. It carries digested and absorbed fat

C. It is similar to blood plasma, colourless and containing less protein

D. It is similar to blood plasma, red coloured and has more protein

Answer: D

View Text Solution

36. The effect of root pressure in transport of water is more effective .

A. during day.

B. during both day and night

C. during night

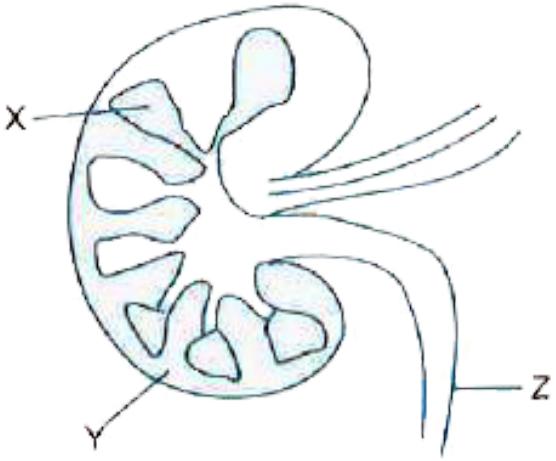
D. none of the above

Answer: C

View Text Solution

37. Students dissected a human kidney longitudinally and drew the given diagram. Choose the correct labelling :

	X	Y	Z
A	Cortex	Medulla	Ureter
B	Renal Pyramid	Bowman's Capsule	Renal Artery
C	Medulla	Cortex	Ureter
D	Bowman's Capsule	Cortex	Renal Artery



A. A

B. B

C. C

D. D

Answer: C

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38. Which one of the following statement is correct about the human circulatory system ?

A. Blood transports only oxygen and not carbon dioxide

B. Human heart has five chambers.

C. Valves ensure that the blood does not flow backwards.

D. Both oxygen-rich and oxygen-deficient blood gets mixed in the heart

Answer: C

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39. Anaerobic process

A. takes place in yeast during fermentation

B. takes place in th presence of oxygen

C. produces only energy in the muscles of human beings

D. produces ethanol, oxygen and energy

Answer: A

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40. Most of the digestion and absorption of the food takes place in the .

A. small intestine

B. liver

C. Stomach

D. large intestine

Answer: A

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True Or False

1. Movement of molecules does not take place among cells

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2. Fermentation takes place in mitochondria

View Text Solution

3. Large number of tiny pores called stomata are present on the surface of green leaves

View Text Solution

4. Protein digestion takes place in small intestine only

View Text Solution

5. Plants give out both O_2 and CO_2 during night

View Text Solution

6. Absorption of digested food occurs throughout the alimentary canal

View Text Solution

7. The rate of breathing in aquatic organisms is faster than that of terrestrial animals

View Text Solution

8. Presence of four chambered heart makes us warm blooded

View Text Solution

9. Platelets playan important role in blood clotting.

View Text Solution

10. Evaporatio of water from the leaf surface has no role in upward movement of water in plants .

View Text Solution

11. Urina formation takes place in kidneys .

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Fill In The Blanks

1. The processes which together perform the maintenance of an organism are called _____

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2. Green plants are _____ which use simple materials as raw materials to prepare their own food.

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3. In plants, the food is stored in the form of _____ whereas in animals it is stored in the from of _____.

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4. The opening and closing of stomata is the functioning of _____.

View Text Solution

5. _____ is an essential element used in the synthesis of proteins and other compounds.

View Text Solution

6. The lining of the alimentary canal has muscles that contract rhythmically resulting in _____ that pushes the food downwards .

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7. The food coming from stomach is _____ and is made alkaline by _____

View Text Solution

8. Glycolysis involves breakdown of 60C glucose into 3-C _____.

View Text Solution

9. Blood pressure is measured by an instrument called _____.

View Text Solution

10. Through the pores present in the blood capillaries, some amount of plasma, proteins and blood cells escape into intercellular spaces to form _____.

View Text Solution

Assertion Reason Questions

1. Assertion (A) : Plants have low energy needs compared to animals.

Reason (R) : Plants do not show locomotion and not all cells in their body are living.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false.

D. (A) is false bu (R) is true.

Answer: A

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2. Assertion (A) : Veins have thinner walls compared to arteries.

Reason (R) : Veins carry deoxygenated blood.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false.

D. (A) is false bu (R) is true.

Answer: B

View Text Solution

3. Assertion (A) : Blood circulation in fish heart is called double circulation.

Reason (R) : Oxygenated and deoxygenated blood are not kept separated in fishes heart.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false.

D. (A) is false bu (R) is true.

Answer: D

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4. Assertion (A) : On a cloudy day, the rate of photosynthesis will decreases .

Reason (R) : The stomata close, leading to reduced transpiration.

A. Both (A) and (R) are true and (R) is correct explanation of the assertion.

B. Both (A) and (R) are true but (R) is not the correct explanation of the assertion.

C. (A) is true but (R) is false.

D. (A) is false bu (R) is true.

Answer: B

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Very Short Answer Questions

1. Name the components of blood which transport :

(i) Food, carbon dioxide and nitrogenous wastes,

(ii) Oxygen.

View Text Solution

2. Rings of cartilage are present in trachea. Why ?

View Text Solution

3. Why in single-celled organism, specific organs for taking in food, exchange of gases or removal of waste are not required ?

View Text Solution

4. Define nutrition.

View Text Solution

5. Fill in the blanks :

(i) _____ are organisms which obtain nutrition from dead decaying organic matter.

(ii) _____ are organisms which obtain nutrients from the body of other living organism and harm them .

View Text Solution

6. What is the mode of nutrition in Plasmodium ?

View Text Solution

7. Write full name of

(i) ADP (ii) ATP

View Text Solution

8. Name the digestive enzyme present in salive .

View Text Solution

9. In which type of medium pepsin and gastric lipase work ?

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10. What are villi ?

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11. Name the hormones secreted by pancreas.

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12. What is succus entericus ?

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13. Name the chemical which change the acidic medium of food into alkaline in the intestine .

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14. Water is absorbed from undigested food in which part of alimentary canal ?

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15. Name the structure, which separates abdominal and thoracic cavity.

View Text Solution

16. In which part of body new RBC's are formed ?

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17. Name the mojor veins which pour blood into right atrium .

View Text Solution

18. Why is lamph called extracellular fluid ?

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19. Why brushing the teeth after eating is a good habit ?

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20. Why aquarium fish open and close their mouths at regular intervals ?

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21. What is the normal range of haemoglobin content in human beings ?

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22. What is meant by high blood pressure (Hypertension) ?

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23. How can high blood pressure harm us ?

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24. Though the volume of blood kidney filters is 180 L a day then, why is the volume of urine only one to two litres ?

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25. What will happen to a plant if its xylem is removed ?

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26. Name the green dot like structures in some cells observed by a student when a leaf peel was viewed under a microscope. What is this

green colour due to ?

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27. Given one reason why multicellular organisms require special organs for exchange of gases between their body and their environment.

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28. What are catabolic reactions ?

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29. Stomata of desert plants remain closed during daytime. How do they take up CO_2 and perform photosynthesis ?

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30. Two green plants are kept separately in oxygen free containser, one in the dark and the other in continuous light. Which one will live longer and give appropriate reason for the same ?

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31. Define peristalsis and give its significance.

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32. When a sportsman runs, he gets muscle cramps. Why ?

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33. What would be the consequence of deficiency of haemoglobin in our bodies ?

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34. Name the factors on which the amount of water reabsorbed along the tubular part of nephron depends.

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35. Give the functional aspect of an artificial kidney.

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36. What is the primary toxic waste in our blood filtered by the kidneys ?

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37. (i) Name the respiratory pigment found in human beings.

(ii) How is carbon dioxide transported in our body ?

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38. (i) Name two organisms that obtain food through parasitic nutritive strategy.

(ii) How do fungi obtain their food ?

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39. If you chew a piece of bread for a long time it tastes sweet . Why ?

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40. Name two enzymes present in pancreatic juice and give their functions.

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41. What is meant by assimilation of food ?

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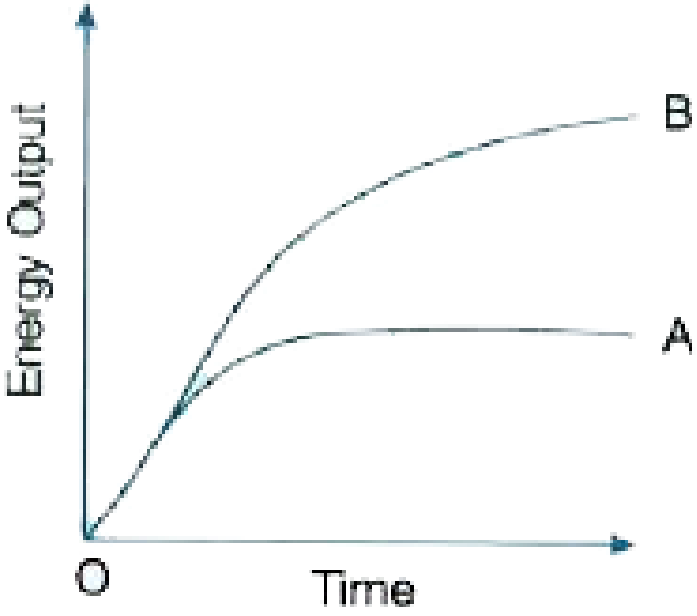
42. A graph (Fig. 6 . 10) was plotted to show the energy output of two types of respiration. Identify the types of respiration denoted by curves A and B .



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43. During one cycle how many times blood goes to heart of a fish and why ?

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44. What is blood pressure ? Name the instrument used to measure blood pressure.

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45. Plants have low energy needs as compared to animals . Explain.

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46. What is common for Cuscuta, Ticks and Leeches ?

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47. Name the energy currency in the living organism. When and where is it produced ?

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48. What will happen if mucus is not secreted by the gastric glands ?

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49. Name a common nutrient that is absorbed in the small intestine and reabsorbed by the kidney tubules.

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Short Answer Questions

1. (a) Name the following :

(i) The three carbon molecule that is formed due to break-down of glucose during respiration.

(ii) The nitrogenous waste that is removed from the blood in our kidneys .

(b) How do unicellular organisms generally remove waste ?

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2. Give reason :

(i) Fine hair and mucus are present in the nasal passage.

(ii) Rings of cartilage are present in the throat .

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3. Define the term parasite. Name one plant parasite and one animal parasite. Some organisms break-down the food material outside the body and them absorb it . Give two examples.

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4. How do the guard cells regulate opening and closing of stomatal pore ?

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5. Give reasons why (Do any three out of four):

(i) Herbivores have longer small intestine as compared to carnivores.

(ii) Mucus is secreted along with hydrochloric acid in the stomach.

(iii) Rings of cartilage are present in trachea.

(iv) Lungs always contain a residual volume of air .

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6. Which mechanism plays an important role in transportation of water in plants :

(a) During day time (b) At night ?

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7. Differentiate between aerobic and anaerobic respiration .

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8. "Bile juice does not contain any enzyme but is essential for digestion ."

Justify the statement.

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9. State the importance of lymph in human transport system .

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10. Define the following terms (Do any two out of three) :

(a) Holozoic nutrition (b) Emulsification (c) Dialysis .

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11. How does blood clotting occur ?

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12. Explain how are the fats digested in our bodies ? Where does this process take place ?

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13. Explain why is transportation of materials necessary in animals ?

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14. What do the following transport ?

(i) Xylem (ii) Phloem

(iii) Pulmonary vein (iv) Vena cava

(v) Pulmonary artery (vi) Aorta.

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15. Name the various digestive glands associated with human digestive system . Also give the name of secretion of these glands along with their

functions.

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16. Name the various heterotrophic mode of nutrition.

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17. In experimental set up (a) air is being passed by pichkari/syringe in freshly prepared lime solution . While in experimental set up (b) air is being exhaled in lime water . By doing so we observe that lime water in set up (b) turns milky immediately while in set up (a) it does not turn

milky immediately. Explain giving reasons.

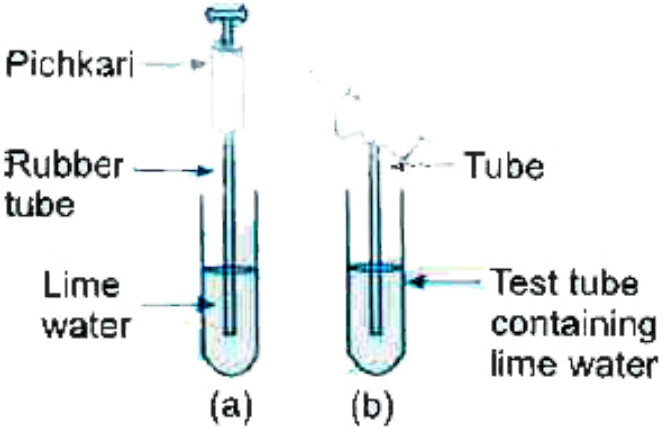

Fig. 6.11 (*a*) Air being passed into lime vater with a pichkari/syringe (*b*) Air being exhaled into lime water

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18. Differentiate between arteries, veins and capillaries.

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19. Enumerate the events that occur during the process of photosynthesis .

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20. Transpiration is a necessary evil. Justifly the statement by highlighting the harmful and useful aspects of this process.

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21. Give reasons for the following :

(i) The muscular walls of ventricles are thicker than the walls of atria.

(ii) Arteries have thick elastic walls.

(iii) Veins have valves .

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22. During respiration pyruvic acid is produced as end-product of glycolysis . State the end-products formed from it on further breakdown in each of the following cases :

(a) Yeast in absence of oxygen.

(b) Lack of oxygen in muscles.

(c) Presence of oxygen in mitochondria.

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23. Write one feature which is common to each of the following pairs :

(a) Glycogen and starch

(b) Chlorophyll and haemoglobin

(c) Gills and lungs.

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24. (a) Transport of food in plants require living tissues and energy. Justify the statement .

(b) Name the component of food translocated by living tissues.

View Text Solution

25. Differentiate between xylem and phloem .

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26. In each of the following situations, what happens to the rate of photosynthesis ?

(a) Cloudy days (b) No rainfall in the area.

(c) Good manuring in the area. (d) Stomata get blocked due to dust.

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27. What are the adaptations of a leaf photosynthesis ?

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28. Name the following :

(a) The process in plants that links light energy with chemical energy.

(b) Organisms that can prepare their own food.

(c) the cell organelle where photosynthesis occurs.

(d) Cells that surround a stomatal pore.

(e) Organisms that cannot prepare their own food.

(f) An enzyme secreted from gastric glands in stomach that acts on proteins.

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29. A variegated leaf with green and yellow patches is used for an experiment to prove that chlorophyll is required for photosynthesis . Before the experiment the green portions (A) , and the pale yellow portions (B), are observed. What will be the colour of 'A' just before and after the starch test ? Also write the equation of photosynthesis and mark, as well as validate from which molecule the by product is obtained .

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30. How does exchange of gase take place in roots of plants ?

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31. What is difference between breathing and respiration ?

View Text Solution

32. What is meant by excretion and osmoregulation ?

View Text Solution

33. Explain the importance of soil for plant growth .

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34. Leaves of a healthy potted plant were coated with vaseline. Will this plant remain healthy for long time ? Give reasons .

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35. If a plant is releasing carbon dioxide and taking in oxyge during the day, does it mean that there is o photosynthesis occurring ? Justify your answer.

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36. Explain the process of breathing in man.

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37. How do carbohydrates, proteins and fats get digested in human beings ?

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38. Improtant part of digestion of food takes place in our stomach. Explain the role of gastric glands present in the wall of the stomach.

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39. Besides blood, there's another fluid connective tissue in our body called lymph. Describe briefly.

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Long Answer Questions

1. Describe the working of artificial kidney

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2. Describe the process of digestion of food in man .

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3. Describe an experiment to show that carbon dioxide is essential for photosynthesis .

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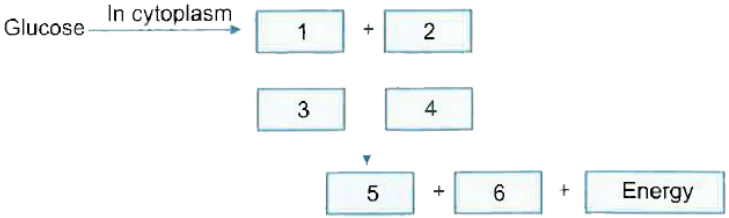
4. Complete the glucose breakdown pathway in case of aerobic respiration by filling the blanks.

(a) Name the molecule in the cell which stores the energy produced at the end of the path way.

(b) Why do we get cramps during sudden musclar activity ?



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5. Draw a well-labelled diagram to show opem stomatal pore. Statr two functions of stomata.

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6. Briefly describe any five functions of blood .

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7. Draw diaggram of human alimentary canal and lable the following : (i) Part in which starch digestion is initiated.

(ii) Orgen in which bile is stored.

(iii) The gland that secretes digestive enzymes as well as hormones.

(iv) Part of alimentary cancel where water is reabsorbed.

(v) Part of gul where finger like projections are present to facilitate absorption of digested food .

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8. Describe the mechanism of breathing in man.

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9. (a) State the form in which the following are stored.

(i) Unused carbohydrates in plants.

(ii) Energy derived from in human .

(b) Describe the process of nutrition in amoeba with the help of diagram.

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10. (a) Write the reaction that occurs when glucose breaks down anaerobically in yeast.

(b) Write the mechanism by which fishes breath in water.

(c) Name the balloon likes structures present in lungs. List its two functions.

(d) Name the respiratory pigment and write its role in human beings.

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11. (a) Name the process and explain the type of nutritio found in green plants. List the raw materials required for this process. Give chemical equation for the mentioned process.

(b) Write three events that occur during this process.

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12. (a) Write the name of different components of transport system in human being and state their functions in brief .

(b) How is blood clot form, if a leak develops in the system of blood vessels ?

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13. (i) In the given diagram identify

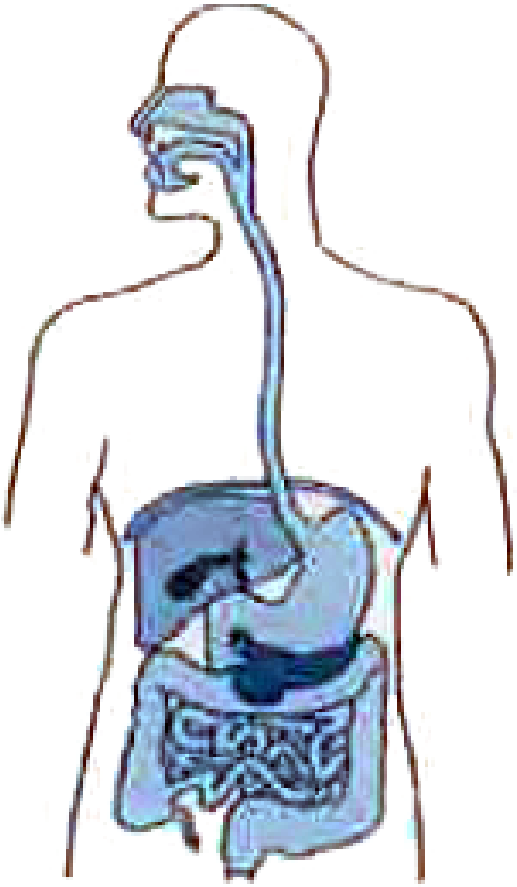
(a) The part from where acid is released.

(b) Secretion of this helps in emulsification of fats.

(c) Lpng tube like structure where peristalsis is the only process taking place .

(d) A vestigial organ.

(e) Accessory digestive heterocrine gland . (ii) Why is small intestine longer in the herbivores compared to that of carnivores ?



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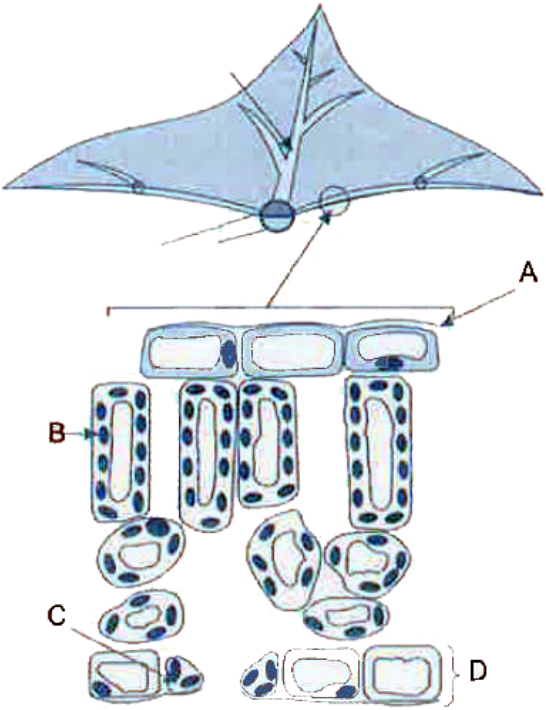
14.



(a) Identify the parts A-D

(b) i. Name the layer where light is trapped.

(ii) What determines the function of 'C' and how ? (c) Give reason why A is present where it is and not on D ?

(d) How are leaves best adaptated to perform their functions.

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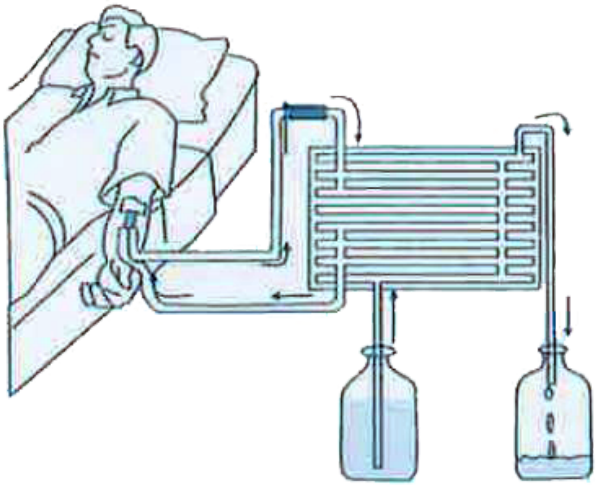

15.

(a) What are the contents of jar A and jar B ?

(b) What is being shown in the given diagram ?

(c) Describe the process.

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16. In the given diagram, certain part of the alimentary canal (X) has been removed.

(a) Identify A, B and C giving their function.

(b) Why has 'X' been removed ?

(c) How does it affect digestion ?

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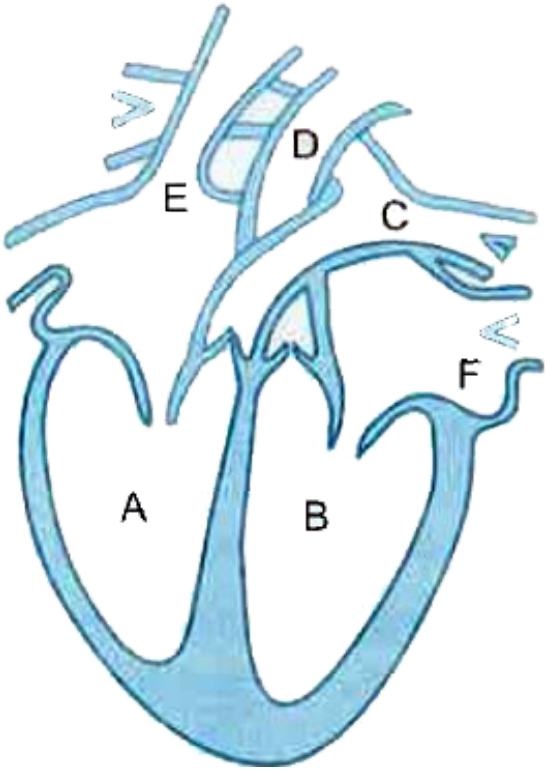
17. (i) Identify any two parts from the above diagram which carry oxygenated and deoxygenated blood.

(ii) Explain the process of double circulation with the help of a flow chart .



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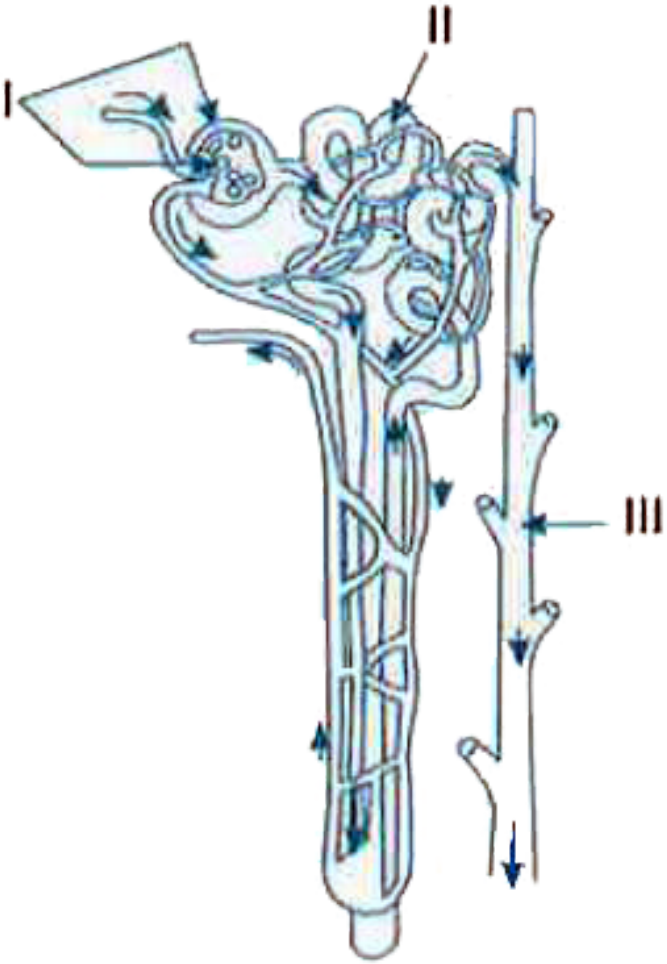
18. You have been given structure of the basic structural unit of the Human kidney.

(a) What does the structure represent ?

(b) Identify I, II, III according to their function.

(c) Write in steps the process of urine formation.



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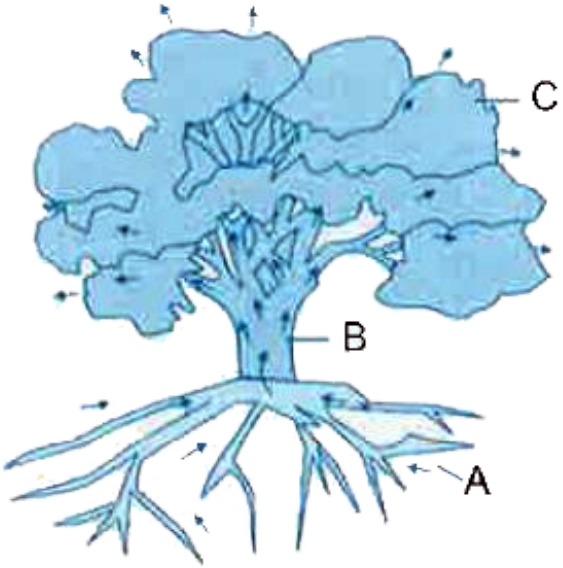
19. In the given figure , the arrows depict the movement of water in the tree.

(a) What do the arrows A, B and C represent ?

(b) What kind of movement is A and what is C ?

(c) Explain the three forces responsible for uptake of water .



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20. Study the diagrams A and B. Answer the questions that follow : (a) Identify the type of nutrition given in the figures A and B.

(b) What mode of nutrition is shown in Fig. A ? Give another similar example from animal kingdom.

(c) What mode of nutrition is shown in Fig. B ? State a reason why a deer will have a larger small intestine than the tiger.

(d) From the above figures, find out an exception . Why is it so ?

A

Yellow cuscuta growing on tree

B

Deer eating grass.

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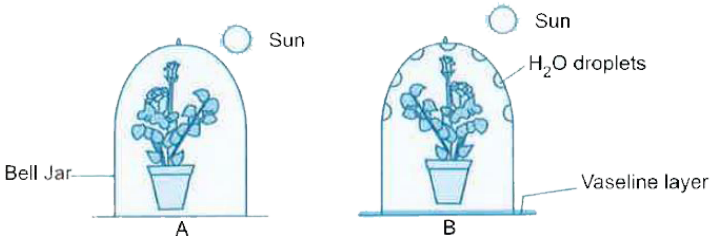
21. While performing the experiment to prove that carbon dioxide is essential for photosynthesis, why were the following steps taken?

(a) The two potted plants A and B were selected and kept in dark for 48 hours.

(b) They were then kept in sunlight.

(c) Pot B had water droplets on the bell jar whereas Pot A did not.

(d) If a wathc glass containing KOH was kept inside along with Pot . B, what would be the result ?



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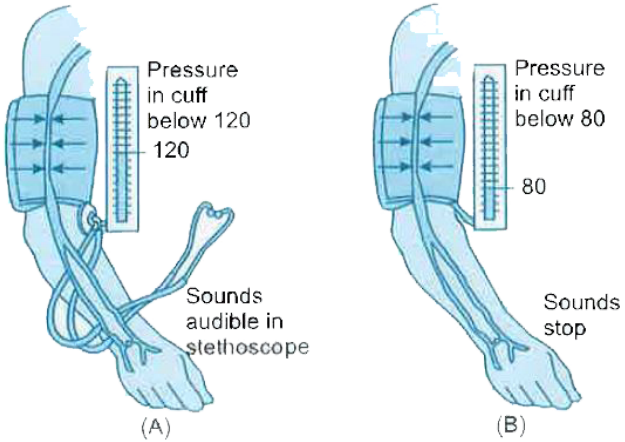
22. (a) What is being shown in the given Fig. A and B ?

(b) Name the instrument used to measure this value.

(c) Why is their difference in the reading in Fig. A and B ?

(d) Discuss some common reasons that may lead to increase in this value.



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