CBSE Class 7 Science

NCERT Exemplar Solutions

Chapter 11: Transportation in Animals and Plants

MULTIPLE CHOICE QUESTIONS

1. The muscular tube through which stored urine is passed out of the body is called –
   a) Kidney
   b) ureter
   c) Urethra
   d) Urinary bladder

Solution: The correct answer is option (c), Urethra. A hollow tube is located between 'Urinary Meatus' and 'Urinary Bladder'. A tube in kidney through which urine leaves the human body is termed as urethra.

2. They are pipe-like, consisting of a group of specialised cells. They transport substances and form a two-way traffic in plants. Which of the following terms qualify for the features mentioned above?
   a) Xylem tissue
   b) Vascular tissue
   c) Root hairs

d) Phloem tissue

Solution: The correct answer is option (d), Phloem Tissue. Phloem tissue is a heterogeneous vascular tissue and complex tissue. It performs as a transport system for every soluble organic compound within vascular plants.

3. The absorption of nutrients and exchange of respiratory gases between blood and tissues takes place in
   a) Veins
   b) Arteries
   c) Heart
   d) Capillaries

   Solution: The correct answer is option (d), Capillaries. Tiny blood vessels, connected to arteries to veins are termed as Capillaries.

4. In which of the following parts of human body are sweat glands absent?
   a) Scalp
   b) Armpits
   c) Lips
   d) Palms

Solution: The correct answer is option (c), Lips. Sweat glands are not present in lips. So, lips do not secrete sweat.

5. In a tall tree, which force is responsible for pulling water and minerals from the soil?
   a) Gravitational force
   b) Transportation force
   c) Suction force
   d) Conduction force

Solution: The correct answer is option (c), Suction force. Roots absorb minerals and water from the soil constantly. The suction force is created by evaporation of water from the leaves. It helps water to move in the upper direction.

6. Aquatic animals like fish excrete their wastes in gaseous form as
   a) Oxygen
   b) Hydrogen
   c) Ammonia
   d) Nitrogen

Solution: The correct answer is option (c), Ammonia. Aquatic animals perform the procedure of 'Excretion' depending on the availability and unavailability of water.

VERY SHORT ANSWER QUESTIONS

7. Veins have valves which allow blood to flow only in one direction. Arteries do not have valves. Yet the blood flows in one direction only. Can you explain why?

Solution: In Arteries, there are wide elastic valves. In arteries, blood flows speedily at high pressure. Due to this blood always flows in a single direction.

8. What is the special feature present in a human heart which does not allow mixing of blood when oxygen-rich and carbon dioxide-rich blood reach the heart?

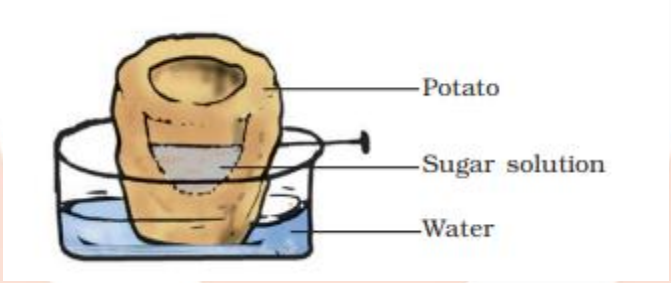
Solution: Heart of the human is a muscular organ. It is four-chambered (two ventricles and two atria). So, when the blood reaches the heart carbon dioxide-rich blood and oxygen-rich blood will not mix up.

9. Name the organ which is located in the chest cavity with its lower tip slightly tilted towards the left.

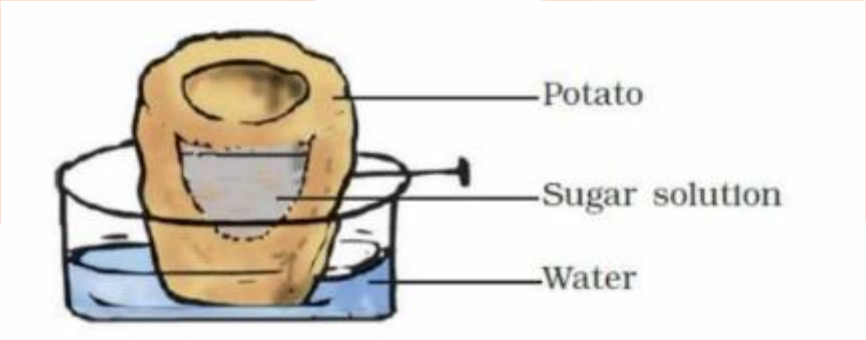
Solution: Name of the organ is 'Heart'. Heat is a major blood pumping organ of the human 'Circulatory System'.

SHORT ANSWER QUESTIONS

10. Look at Figure 11.1. Draw another figure of the same set-up as would be observed after a few hours.



Solution: After a few hours, we see the increased level of sugar solution and decreased the level of water. This represents that water from the beaker has been absorbed by the solution.



11. Arrange the following statements in the correct order in which they occur during the formation and removal of urine in human beings.
    a) Ureters carry urine to the urinary bladder.
    b) Wastes dissolved in water are filtered out as urine in the kidneys.
    c) Urine stored in urinary bladder is passed out through the urinary opening at the end of the urethra.
    d) Blood containing useful and harmful substances reaches the kidneys for filtration.
    e) Useful substances are absorbed back into the blood.

    Solution: The arranged statements are:

    a) Blood containing useful and harmful substances reaches the kidneys for filtration.
    b) Useful substances are absorbed back into the blood.
    c) Wastes dissolved in water are filtered out as urine in the kidneys.
    d) Ureters carry urine to the urinary bladder.
    e) Urine stored in urinary bladder is passed out through the urinary opening at the end of the urethra.

12. Paheli uprooted a rose plant from the soil. Most of the root tips, with root hairs got left behind in the soil. She planted it in a pot with new soil and watered it regularly. Will the plant grow or die? Give reason for your answer.

Solution: The possible answers are

a) The plant will die because without the root hairs, the root will not able to absorb nutrients and water. Also, because transferring the rose plant into the new soil.
b) The plant will survive because stem of rose plant may grow into new plants.

13. (a) Name the only artery that carries carbon dioxide-rich blood.

(b) Why is it called an artery if it does not carry oxygen-rich blood?

Solution:

a) Pulmonary artery
b) It carries blood away from the heart. So, it is termed as artery.

14. Boojho's uncle was hospitalised and put on dialysis after a severe infection in both of his kidneys.
a) What is dialysis?
b) When does it become necessary to take such a treatment?

Solution:

a) The periodical filtering of blood through artificial kidney is termed as 'Dialysis'.
b) It performs the function of kidneys it they have failed.

15. Name the process and the organ which helps in removing the following wastes from the body.
a) Carbon dioxide
b) Undigested food
c) Urine
d) Sweat

Solution: The arranged table is:

Waste	Process	Organ
Carbon dioxide	Exhalation	Lungs
Undigested food	Egestion	Anus and large intestine
Urine	Excretion	Kidney
Sweat	Sweating	Sweat glands

16. Observe Figure 11.2 and answer the given questions:

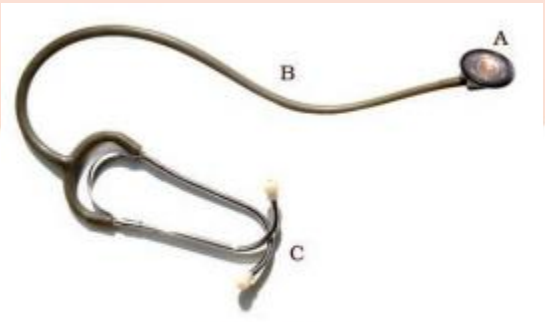
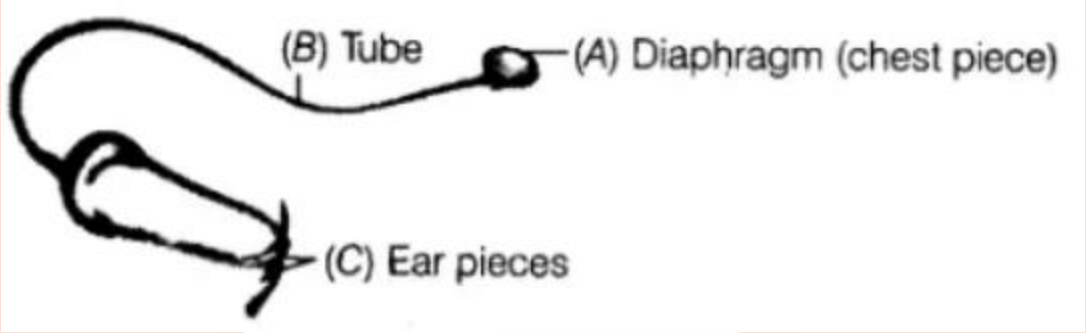


Fig 11.2

(a) Name the instrument.
(b) Label the parts A, B and C.

Solution:

a) The name of instrument is ‘Stethoscope’.
b) Labelled figure:



17. Paheli noticed water being pulled up by a motor-pump to an overhead tank of a five-storeyed building. She wondered how water moves up to great heights in the tall trees standing next to the building. Can you tell why?

Solution: Roots constantly absorb minerals and water from the soil. The suction force is created by evaporation of water from leaves. It helps water to move in the upper direction and reaches a great height in tall trees.

LONG ANSWER QUESTIONS

18. Match the parts of the heart in Column I with the direction of flow of blood in Column II.

Column I	Column II
Right ventricle	Pushes blood into the pulmonary artery.
Pulmonary veins	Take deoxygenated blood from the heart to lungs.
Left atrium	Receives blood from different parts of the body
Pulmonary arteries	Bring oxygenated blood from lungs to the heart.
Left ventricle	Pushes blood into the aorta
Right auricle	Receives deoxygenated blood from the pulmonary veins.

Solution:

Column I	Column II
Right ventricle	Pushes blood into the pulmonary artery.
Pulmonary veins	Bring oxygenated blood from lungs to the heart.
Left atrium	Receives blood from different parts of the body
Pulmonary arteries	Take deoxygenated blood from the heart to lungs.
Left ventricle	Pushes blood into the aorta

Right auricle	Receives deoxygenated blood from the pulmonary veins.

19. Read the following terms given below.

    Root, hairs, xylem, urethra, arteries, kidneys, veins, atria, capillaries, heart, ureter, phloem, urinary bladder.

Group the terms on the basis of the categories given below:

a) Circulatory system of animals.
b) Excretory system in human.
c) Transport of substances in plants.

Solution: The terms on the basis of the categories are:

a) Arteries, atria, capillaries, veins, heart are the circulatory systems of animals.
b) Urethra, kidneys, ureter and urinary bladder are excretory system in human.
c) Root hairs, xylem and phloem are transport of substances in plants.

20. Fill in the blanks of the following paragraph using just two words – arteries and veins. ___(a)___ carry oxygen-rich blood from the heart to all parts of the body and ___ (b)___ carry carbon dioxide-rich blood from all parts of the body back to the heart. ___ (c)___ have thin walls and __ (d)___ have thick elastic walls. Blood flows at

high pressure in ___ (e)____. Valves are present in __ (f) ___ which allow blood to flow only towards the heart. __ (g)___ divide into smaller vessels. These vessels further divide into extremely thin tubes called capillaries. The capillaries join up to form ____ (h)_____.

Solution: The fill up are, (a) Arteries, (b) Veins, (c) Veins, (d) Arteries, (e) Arteries, (f) Veins, (g) Arteries, (h) Veins.

21. While learning to ride a bicycle Boojho lost his balance and fell. He got bruises on his knees and it started bleeding. However, the bleeding stopped after some time.
    a) Why did the bleeding stop?
    b) What would be the colour of the wounded area and why?
    c) Which type of blood cells are responsible for clotting of blood?

Solution:

a) Bleeding stopped after some time due to formation of blood clots.
b) Dark red is the colour of wound. This is because of blood clotting.
c) Platelets are responsible for blood clotting.