પુ•ના International School
Shree Swaminarayan Gurukul, Zundal

	SUMMATIVE ASSIGNMENT - II	**2022-23**
Grade – VII		**Subject-SCIENCE**
	Syllabus – CH-10,11,12,13,14,15,17	**FROM TEXTBOOK**

❖ **Multiple Choice Questions :-**

(1) In cockroaches, air enters the body through
(a) lungs (b) gills **(c) spiracles** (d) skin

(2) During heavy exercise, we get cramps in the legs due to the accumulation of
(a) Carbon dioxide **(b) lactic acid** (c) Alcohol (d) water

(3) Normal range of breathing rate per minute in an average adult person at rest is:
(a) 9-12 **(b) 15-18** (c) 21-24 (d) 30-33

(4) During exhalation, the ribs
(a) move outwards **(b) move downwards** (c) move upwards (d) do not move at all.

(5) In plants, water is transported through
(a) Xylem (b) Phloem (c) Stomata (d) Root hair

(6) Water absorption through roots can be increased by keeping the plants
(a) in the shade (b) in dim light. **(c) under the fan** (d) covered with a polythene bag.

(7) The reproductive part of a plant is the
(a) Leaf (b) Stem (c) Root (d) Flower

(8) The process of fusion of the male and female gametes is called
(a) Fertilisation (b) Pollination (c) Reproduction (d) Seed formation

(9) Mature ovary forms the
(a) Seed (b) Stamen (c) Pistil **(d) Fruit**

(10) A spore producing plant is
(a) Rose **(b) Bread mould** (c) Potato (d) Ginger

(11) Bryophyllum can reproduce by its
(a) Stem **(b) Leaves** (c) Roots (d) Flower

(12) Fish breathe with the help of gills which are richly supplied with blood vessels. The gills help the fish to:

(a) take in carbon dioxide dissolved in water. **(b) take in oxygen dissolved in water.**

(c) absorb nutrients present in water. **(d)** release waste substances in water.

(13) Earthworms and frogs breathe through their skin because of which the skin of both the organisms is:

(a) moist and rough. **(b)** dry and rough.

(c) dry and slimy. **(d) moist and slimy.**

(14)The absorption of nutrients and exchange of respiratory gases between blood and tissues takes place in

(a) veins (b) arteries (c) heart **(d) capillaries**

(15) In which of the following parts of human body are sweat glands absent ?

(a) Scalp (b) Armpits **(c) Lips** (d) Palms

(16) 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

(17) Aquatic animals like fish excrete their wastes in gaseous form as -

(a) Oxygen (b) Hydrogen **(c) Ammonia** (d) Nitrogen

(18) Lila observed that a pond with clear water was covered up with a green algae within a week. By which method of reproduction did the algae spread so rapidly ?

(a) Budding (b) Sexual reproduction **(c) Fragmentation** (d) Pollination

(19) Seeds of drumstick and maple are carried to long distances by wind because they possess

(a) winged seeds (b) large and hairy seeds (c) long and ridged fruits (d) spiny seeds

(20) The 'eye' of the potato plant is what

(a) the root is to any plant. (b) the bud is to a flower.
(c) the bud is to Bryophyllum leaf. (d) the anther is to stamen.

(21) The basic unit of speed is:
(a) Km/min (b) m/min (c) km/h **(d) m/s**

(22) A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. The total distance covered by the car is :
(a) 100 km **(b) 25 km** (c) 15 km (d) 10 km

(23) A virtual image larger than the object can be produced by a

(a) Concave lens **(b) Concave mirror**

(c) Convex mirror (d) Plane mirror

(24) David is observing his image in a plane mirror. The distance between the mirror and his image is 4 m. if he moves 1 m towards the mirror, then the distance between David and his image will be:

(a) 3 m (b) 5 m **(c) 6 m** (d) 8 m

(25) The rear view mirror of a car is a plane mirror. A driver is reversing his car at a speed of 2 m/s. The driver sees in his rear view mirror the image of a truck parked behind the car. The speed at which the image of the truck appears to approach the driver will be

(a) 1 m/s (b) 2 m/s **(c) 4 m/s** (d) 8 m/s.

(26) Which of the following is not a forest product?

(a) Gum (b) Plywood (c) Sealing wax **(d) Kerosene**

(27)Which of the following statements is not correct?

(a) Forests protect the soil from erosion.

(b) Plants and animals in a forest are not dependent on one another.

(c) Forests influence the climate ans water cycle.

(d) Soil helps forests to grow and regenerate.

(28) Micro-organisms act upon the dead plants to produce.

(a) Sand (b) Mushrooms

(c) Humus (d) Wood

(29) A rainbow can be seen in the sky

(a) when the sun is in front of you.

(b) when the sun is behind you.

(c) when the sun is overhead.

(d) only at the time of sun rise.

(30) An erect and enlarged image can be formed by

(a) only a convex mirror.

(b) only a concave mirror.

(c) only a plane mirror.

(d) both convex and concave mirrors.

❖ **Fill in the blanks.**

(1) The blood from the heart is transported to all parts of the body by the **arteries**.
(2) Hemoglobin is present in **red blood** cells.
(3) Arteries and Veins are joined by a network of **capillaries**.
(4) The rhythmic expansion and contraction of the heart is called **heart beat**.
(5) The main excretory product in human beings is **urea**.
(6) Sweat contains water and **salts**.
(7) Kidney eliminates the waste materials in the liquid form called **urine**.
(8) Water reaches great heights in the trees because of suction pull caused by **transpiration**.

(9) Production of new individuals from the vegetative part of parent is called **vegetative propagation**.
(10) A flower may have either male or female reproductive parts. Such flower is called **unisexual flowers**.
(11) The transfer of pollen grains from the anther to stigma of the same or of another flower of the same kind is known as **pollination**.
(12) The fusion of male and female gametes is termed as **fertilisation**.
(13) Seed dispersal takes place by means of **wind, water** and **animals**.

(14) The leaves of plants have small pore called **stomata**.
(15) The larynx is also called **voice box**.
(16) Our body is a **conductor** of electricity.
(17) An electric cell produces electricity from the **chemicals stored** in it.
(18) In an electric circuit a fuse is a **safety device** to prevent possible fire.
(19) A combination of two or more cells is called a **battery**.

(20) Longer line in the symbol for a cell represents its **positive** terminal.

(21) The combination of two or more cells is called a **battery**.

(22) When a current is switched ON in a room heater, it **produces heat**.

(23) The safety device based on the heating effect of electric current is called a **fuse**.

(24) An image that cannot be obtained on a screen is called **virtual image**.

(25) Image formed by a convex **mirror** is always virtual and smaller in size.

(26) An image formed by a **plane** mirror is always of the same size as that of the object.

(27) An image which can be obtained on a screen is called a **real** image.

(28)A forest is a purifier of **air** and **water**.

(29)Herbs form the **ground** layer in the forest.

(30)The decaying leaves and animals dropping in a forest enrich the **Soil**.

❖ **Mark 'T" if the statement is true and 'F' if it is false:**

(1) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of other cell. (T/**F**)

(2) When the current through the fuse exceeds a certain limit, the fuse wire melts and breaks. (**T**/F)

(3) An electromagnet does not attract a piece of iron. (T/**F**)

(4) An electric bell has an electromagnet. (**T**/F)

(5) A concave lens can be used to produce an enlarged and erect image.(T/**F**)

(6) A convex lens always produces a real image.(T/**F**)

(7) The sides of an object and its image formed by a concave mirror are always interchanged.(**T**/F)

(8) An object can be seen only if it emits light.(T/**F**)

(9) We can obtain an enlarged and erect image by a convex mirror. (T/**F**)

(10) A concave lens always forms a virtual image. (**T**/F)

(11) We can obtain a real, enlarged and inverted image by a concave mirror. (**T**/F)

(12) A real image cannot be obtained on screen. (T/**F**)

(13) A concave mirror always forms a real image. (T/**F**)

(14) Forests influence climate, water cycle and air quality.(**T**/F)
(15) In a forest, trees form the uppermost layer, followed by herbs. The shrubs form the lowest layer of vegetation.(T/**F**)
(16) The forest keeps on growing and changing and can regenerate.(**T**/F)
(17) Forests protect the soil from erosion.(**T**/F)

❖ **Match the following:-**

1.

Column I	Column II
(a) Yeast	(i) Earthworm
(b) Diaphragm	(ii) Gills
(c) Skin	(iii) Alcohol
(d) Leaves	(iv) Chest cavity
(e) Fish	(v) Stomata
(f) Frog	(vi) Tracheae

Answer: (a) (iii) (b) (iv) (c) (i) (d) (v) (e) (ii) (f) (vi)

2.

Column I	Column II
(i)Stomata	(a)Absorption of water
(ii) Xylem	(b) Transpiration
(iii) Root hairs	(c) Transport of food
(iv) Phloem	(d) Transport of water
	(e) Synthesis of carbohydrates.

Answer: (i) (b) (ii) (d) (iii) (a) (iv) ©

3.

Column I	Column II
(a) Bud	(i) Maple
(b) Eyes	(ii) Spirogyra
(c) Fragmentation	(iii) Yeast
(d) Wings	(iv) Bread mould
(e) Spores	(v) Potato
	(vi) Rose

Answer: (a) (iii) (b) (v) (c) (ii) (d) (i) (e) (iv)

4.

(a) A plane mirror	(i) used as magnifying glass.
(b) A convex mirror	(ii) can form image of objects spread over large area.
(c) A convex lens	(iii) used by dentist to see enlarged image of teeth.
(d) A concave mirror	(iv) the image is always inverted and magnified.
(e) A concave lens	(v) the image is erect and of the same size than object.
	(vi) the image is erect and smaller in size than the object.

Answer: (a) (v) (b) (ii) (c) (i) (d) (iii) (e) (vi)

5.

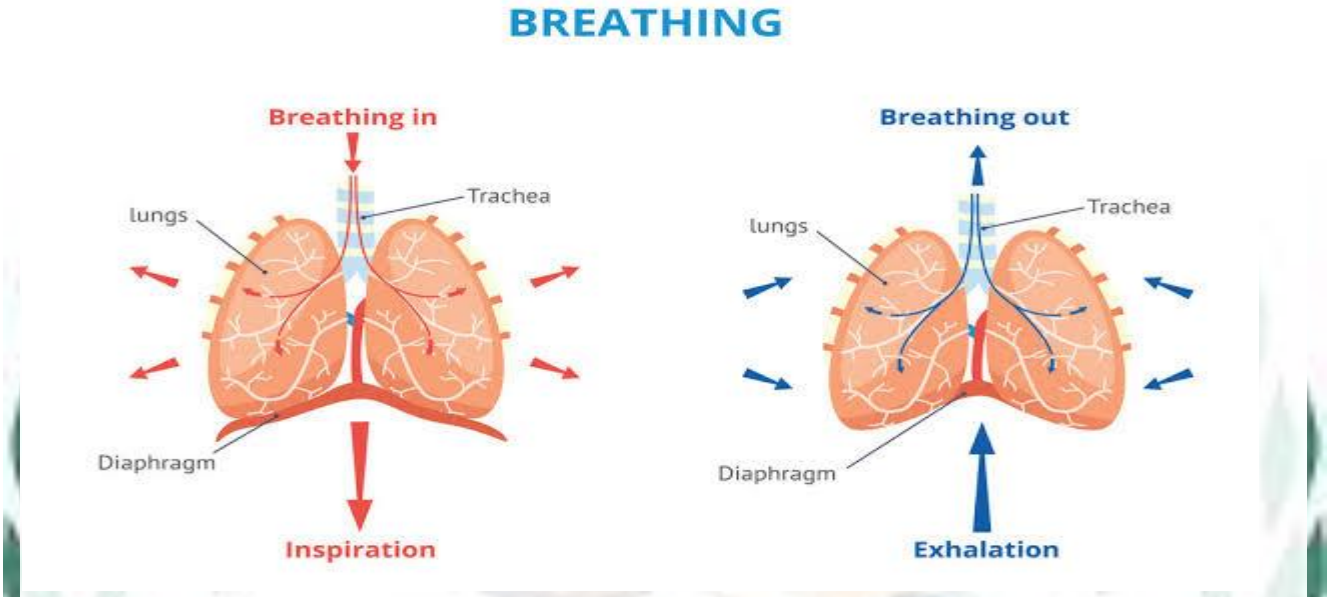
Column I	**Column II**
(a) Decomposers	(i) dead plant and animal tissues
(b) Canopy	(ii) habitats for wild life
(c) Porcupine	(iii) micro-organisms
(d) Humus	(iv) wild animal
(e) Forest	(v) branches of tall trees.

Ans. (a) (iii); (b) (v); (c) (iv); (d) (i); (e) (ii)

❖ **Very Short Question Answer**

1.. What changes are observed in diaphragm during inhalation ?

Ans. During the process of inhalation diaphragm contracts and move downwards.



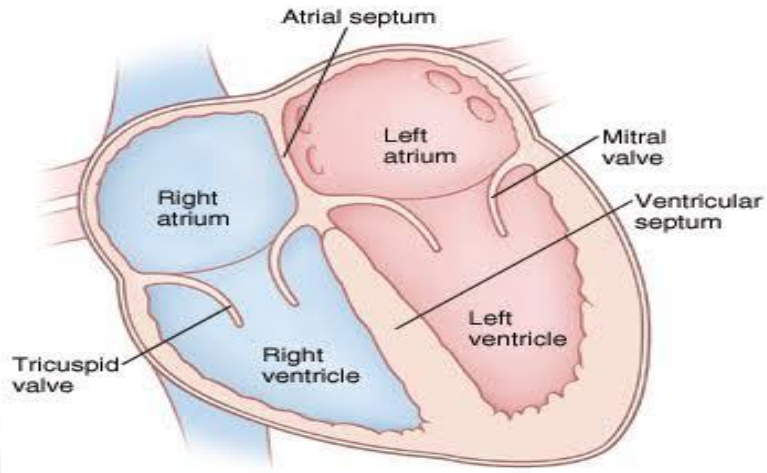
2. The process of fermentation is based on which principle?

Ans. Anaerobic respiration.

3. 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 ?

Ans: Heart is partitioned into four chambers :-

- Right and left auricles (or atria) and
- Right and left ventricle



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

Ans: Heart.

5. Why is it necessary to excrete waste products?
Answer: The waste products produced in various metabolic process in our body are harmful for the body. So it is necessary to excrete it.

6. How does the process of fertilisation take place in flowers?

Answer: The male and female gametes fuse together to form zygote. The process of fusion of male and female gamete is called fertilization. The zygote undergo to mitotic division to form embryo.

7. **A simple pendulum is oscillating between two points A and B as shown in Figure 13.5. Is the motion of the bob uniform or non-uniform?**

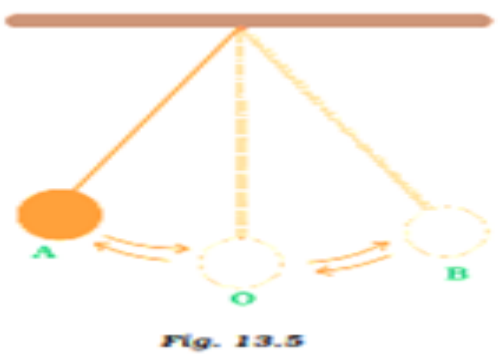


Fig. 13.5

Ans: The motion of the bob isNon-uniform motion as the object is changing its motion.

8. Which property of a conducting wire is utilised in making electric fuse ?
Ans: The property of a conducting wire which is utilised in making electric fuse is low melting point.

9. Name the device used these days in place of electric fuses in electrical circuits.
Ans: Miniature Circuit Breaker (MCB).

10. Why are compact fluorescent lamps (CFLs) preferred over electric bulbs ?Ans: CFLs produce very less heat in compare to electric bulbs. So CFLs do not waste electricity in the form of heat energy.

11. Why is an electric fuse required in all electrical appliances ?
Ans: The fuse is a safety device used in an electrical circuit to prevent a large amount of current flowing through a circuit. When large current passes through the circuit, the fuse wire gets heated up and melts away. As a result, the circuit is broken and further damage to the electrical appliances is prevented.

12. What type of mirror is used as a side mirror in a scooter? Why is this type of mirror chosen?

Ans. Convex mirror is used as side mirror in a scooter because it can form dimnished and upright images of objects spread over a large area. So it enables drivers to see the traffic of a large area behind them.

13. Observe the figures given as Figure 15.1 carefully.

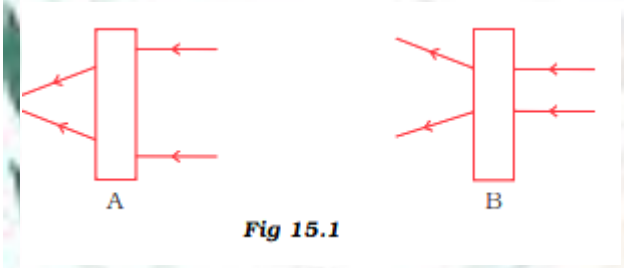


Fig 15.1

The given figures show the path of light through lenses of two different types, represented by rectangular boxes A and B. What is the nature of lenses A and B?

Ans. A – Convex lens - it converges the light ray falling on it;

B – Concave lens- it diverges the light ray falling on it.

14. The side mirror of a scooter got broken. The mechanic replaced it with a plane mirror. Mention any inconvenience that the driver of the scooter will face while using it?

Ans. The driver will not be able to see traffic spread over a large area behind him as plane mirror will form image of same size that of an object but convex mirror can form dimnished image so that it can cover large area.

15. The concave reflecting surface of a torch got rusted. What effect would this have on the beam of light from the torch?

Ans. Reflection of light can't occur from rusted surface of torch so beam of light will get diffused and diminished. If the rusting is too much no light beam can pass from such surface.

16. What is a virtual image? Give one situation where a virtual image is formed.

Answer: The image that cannot be formed or obtained on the screen is called virtual image. When we stand in front of our dressing table mirror, we use to see our virtual image. The virtual image is formed in case of plane and convex mirror.

17. State the differences between convex and a concave lens.

Answer: Difference between convex lens and concave lens:

Convex lens	Concave lens
1. Thick at middle, thin at edge. 2. Can form real image. 3. Converges light falling on it	1. Thin at middle, thick at edge. 2. Cannot form real image. 3. Diverges light falling on it

18. Give one use of a concave and a convex mirror.

Answer: Concave mirror – used by dentist to see enlarged image of teeth.
Convex mirror – used in vehicles as rear view mirror.

19. Which type of mirror can form a real image?

Answer: Concave mirror.

20. Deforestation may lead to floods. Why?

Ans. If trees are not present, rain hits the ground directly and may flood the area around it. Heavy rain may also damages the soil. Roots of trees bind the soil together, but in their absence the soil is washed away or eroded.

21. Name any four useful products other than wood, which we get from forests.

Ans. Gum, oils, spices, fodder for animals, medicinal plants, oxygen is the main by product etc. (any four).

22. Explain why there is no waste in a forest.

Answer: There is no waste in a forest because whatever produced here are utilized by the other organisms or plants for sustainability. Even the waste materials and dead remains which are produced are biodegradable and converted into humus which returns back to the soil as nutrient.

23. Can we use the same fuse in a geyser and a television set ? Explain.

Ans: No, we cannot use the same fuse in a geyser and a television set because a geyser and a television set require different amount of current. Therefore the fuse used in these will be of different ratings.

24. Name two electric devices for each where (i) heating effect of current is used and (ii) magnetic effect of current is used.

Ans: Devices where heating effect of current is used – Geyser, room heater.
Devices where magnetic effect of current is used – Electric bell, Cranes to lift magnetic material.

25. Why do we cover plug pin holes which are within the reach of children with cello tape or a plastic cover when not in use ?

Ans: We cover plug pin holes which are within the reach of children with cello tape or a plastic cover when not in use because child may put his/her fingers into the socket and he/she may get an electric shock which could be fatal.

26. Name any two effects of electric current.

Answer: (i) Heating effect

(ii) Magnetic effect

27. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.

Answer: When the current flows through a circuit produce magnetic field around it which deflect the needle of the compass kept nearby as it is also a piece of magnet.

28. Will the compass needle show the deflection when the switch in the circuit shown by Fig. 14.24 is closed?.

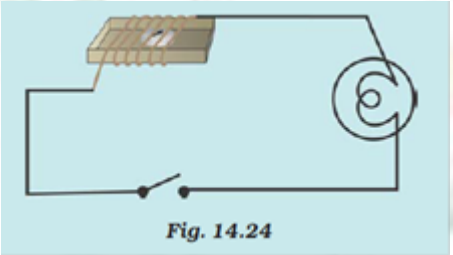


Fig. 14.24

Answer: No, the circuit is not having any source of electricity. Therefore, there will be no flow of electric current through and thus there will be no magnetic effect and neither the deflection of the needle.

29. A shopkeeper wanted to fix a mirror which will give a maximum view of his shop. What type of mirror should he use? Give reason.

Ans. He will fix a convex mirror because it can form dimnished images of object and cover large area.

30. The distance between an object and a convex lens is changing. It is noticed that the size of the image formed on a screen is decreasing. Is the object moving in a direction towards the lens or away from it?

Ans. The object is moving away from the lens. Because it produces magnified image if the object is placed very close to the lens. But in this case the size of the image is decreasing and hence the object is moving far away.

❖ **Short Question Answer**

1. What are the end products of aerobic respiration.

Ans. During aerobic respiration, carbon dioxide and water are released along with a large amount of energy.

Glucose + O2 ------- CO2 + Water + Energy

2. Whenever we feel drowsy or sleepy, we start yawning. Does yawning help us in anyway?

Ans: During drowsiness, our breathing rate slows down. The lungs do not get enough oxygen from the air resulting in yawning. Yawning brings extra oxygen into the lungs and helps us to keep awake.

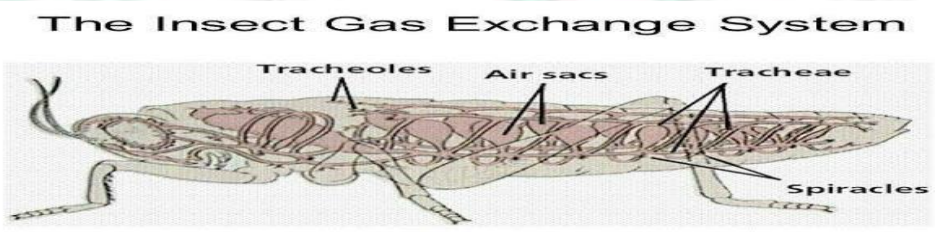
3. Insects and leaves of a plant have pores through which they exchange gases with the atmosphere. Can you write two points of differences between these pores with respect to their position, number and extension into the body?

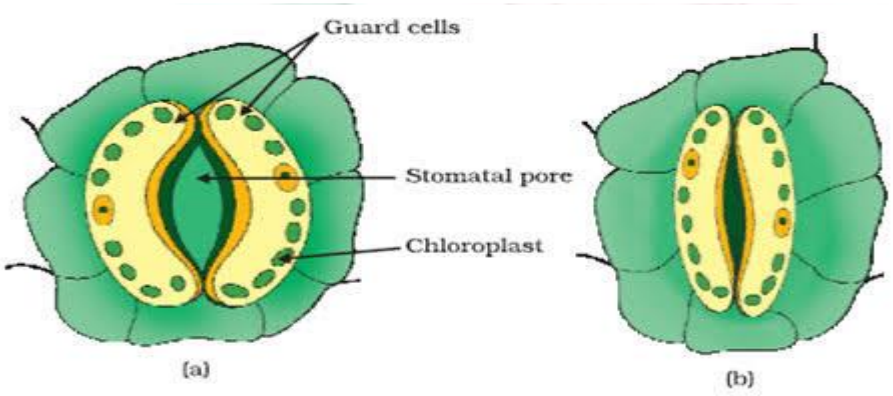
Ans: The differences between the pores of insects and leaves of a plant with respect to their position, number and extension into the body are as follows:-

(i) Spiracles are present on the sides of insects' body while stomata are present on the lower surface of the leaves.

(ii) Spiracles are fewer in number as compared to stomata.

(iii) Spiracles lead to an extensive network of tracheal system which is absent in the leaves.





4. Why do we often sneeze when we inhale a lot of dust-laden air?
Answer: The air around us has various types of unwanted particles, such as smoke, dust, pollen etc. when we inhale; the particles get trapped in the hair present in our nasal cavity. Sometimes these particles enter the nasal cavity and create irritation that leads to sneezing.

5. (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 ?

Ans: (a) Pulmonary artery is the only artery that carries carbon dioxide-rich blood.

(b) It does not carry oxygen-rich blood but it is called an artery because arteries carry blood away from the heart and Pulmonary artery also carry blood away from the heart.

6. Name the process and the organ which helps in removing the following wastes from the body.

(a) Carbondioxide

(b) Undigested food

(c) Urine

(d) Sweat

Ans: Process - Organ

(a) exhalation - lungs

(b) egestion - large intestines and anus

(c) excretion - kidneys

(d) perspiration - sweat glands

7. Observe Figure 11.2 and answer the given questions:

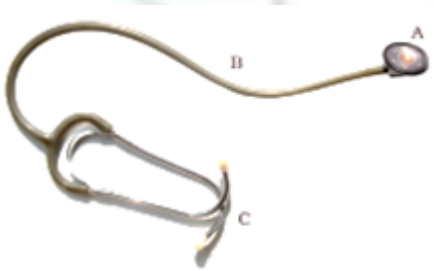


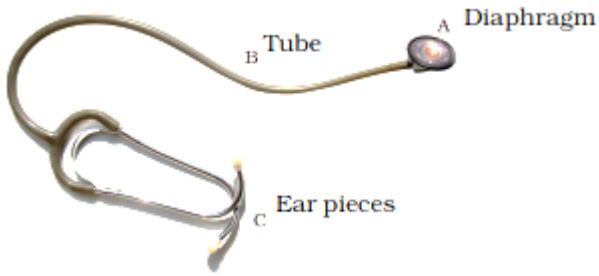
Fig 11.2

(a) Name the instrument.

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

Ans: (a) The given instrument is stethoscope.

(b)



8. Why is transport of materials necessary in a plant or in an animal? Explain.
Answer: In plants and animals the transport of materials is necessary. It can be explained as below:
(i) Animals need to transport food and water from intestine and oxygen from lungs to all other body parts.
(ii) Animals need to transport the wastes from where they are produced to parts from where they can be removed.
(iii) Plants need to transport the food from leaves, water and minerals to all other parts of the plant.

9. What will happen if there are not platelets in the blood?
Answer: Blood cannot clot without the platelets help in the clotting of blood at the time of injury with bleeding.If there is no platelets, then there would be no clotting of blood and ultimately the person may die due to excess of flow of blood.

10. What are stomata? Give two functions of stomata.
Answer: Small pores in leaves of plant are called stomata.

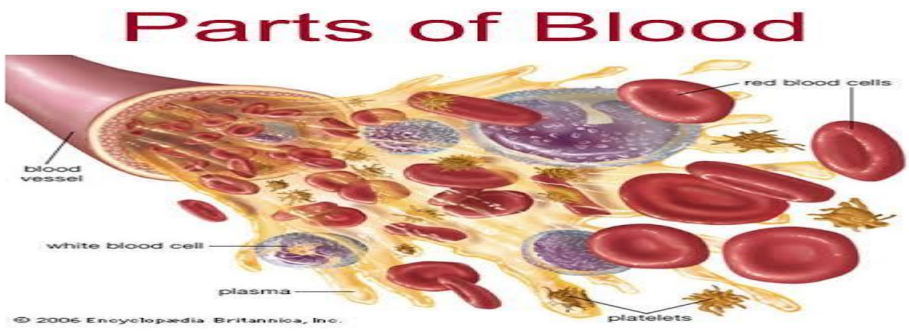
Functions of stomata-

(i) Exchange of carbon dioxide and oxygen.
(ii) Transpiration to remove excess of water.

11. What are the components of blood?

Answer: The main component of blood cells are:

Red blood cells (RBC), white blood cells (WBC), platelets and plasma.



12. Why blood needed by all the parts of a body?

Answer: Blood is needy by all the parts of a body because:
(i) It carries oxygen to all the parts of the body and also carries carbon dioxide back to the lungs.
(ii) It carries digested food to various parts of the body for absorption.
(iii) It contains platelets which help in the clotting of blood.
(iv) It helps in maintaining constant body temperature.
(v) It transports hormones and help in fighting the body with germs and bacteria.

13. In the diagram given in Figure 12.2 label the parts marked (a), (b) and (c).

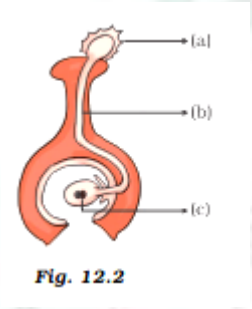
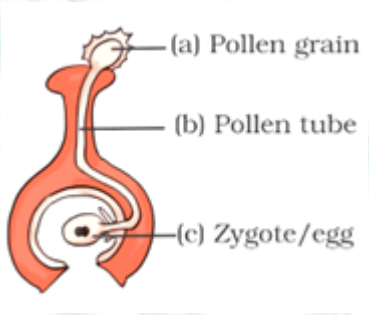


Fig. 12.2

Ans:



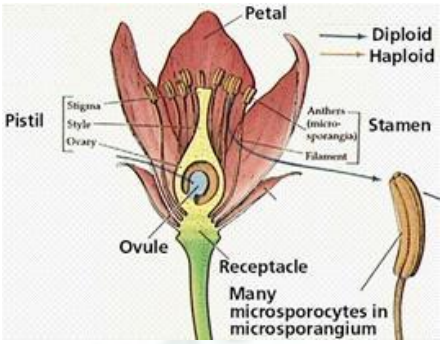
14. When you keep food items like bread and fruits outside for a long time especially during the rainy season, you will observe a cottony growth on them.

(a) What is this growth called?
(b) How does the growth take place?

Ans:(a) It is bread mould, a fungus.
(b) They develop from spores.

15. Sketch the reproductive parts of flower.

Answer:



16. Explain the difference between self-pollination and cross-pollination.

Answer:

Self - Pollination	Cross – Pollination
Pollen of a flower reaches to the stigma of same flower	The transfer of pollen grains from the anthers of a flower to the stigma of another flower on a different plant of the same species
No pollinating agent is required	Pollinating agent like wind, air or insects are required
Occurs only in bisexual flowers	Occurs in unisexual flower
It does not lead to genetic variation in the progeny	It leads to genetic variation in the progeny

17. Describe the various ways by which seeds are dispersed.

Answer: Dispersal of seed takes place by various means such as wind, water, insects, animals and birds. The seeds dispersed by wind are light and smaller in size. So, that it may be carried by wind easily. The water dispersed seeds are generally floating in nature. Spiny seeds with hooks are generally carried by animal's body. The birds disperse the seed to faraway places by eating fruit, they excrete with digesting the seeds.

18. The average age of children of Class VII is 12 years and 3 months. Express this age in seconds.

Ans: average age= 12 years 3 months

$= 12 \times 365 + 3 \times 30$
$= 4380 + 90$
$= 4470$ days
$= 4470 \times 24 \times 60 \times 60$ s
$= 386208000$ s

19. A spaceship travels 36,000 km in one hour. Express its speed in km/s.

Ans: 1 hr = 60 min.

1 min. = 60s.

1 hr = 3600 s.

Distance = 36000 km.

Speed = 36000/3600 km/s

= 10 km/s

20. A simple pendulum takes 32 s to complete 20 oscillations. What is the time-period of the pendulum.

Answer: Number of oscillations = 20
Total time taken = 32 s
We know that time period of a given pendulum is the time taken by it to complete one oscillation. Thus, Time
period =Total time taken Number of oscillations=Total time taken Number of oscillations =32 s20 = 1.6 s=32 s20 = 1.6 s

21. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.

Answer: The distance b/w two stations = 240 Km
Time taken to cover this distance = 4 Hr
Now Speed =DistanceTime =240 km4 hr=60 km/h=DistanceTime =240 km4 hr=60 km/h
Therefore, speed of the train will be 60\km/h

22. In the circuit shown in Fig. 14.25

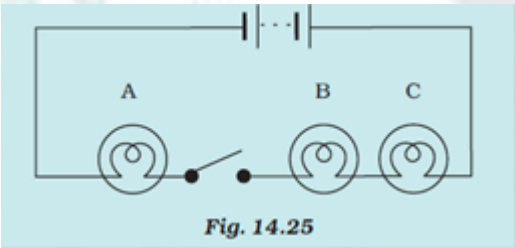


Fig. 14.25

(i) Would any of bulb will glow when the switch is in the 'OF' position?

(ii) What will be the order in which bulb A, B, C will glow when switch is moved to the 'ON' position?

Answer: (i) No, none of the bulb will glow when the switch is in the 'OFF' position.
(ii) All the bulbs will glow at once because connections are ok.

23. Explain how forests prevent floods.

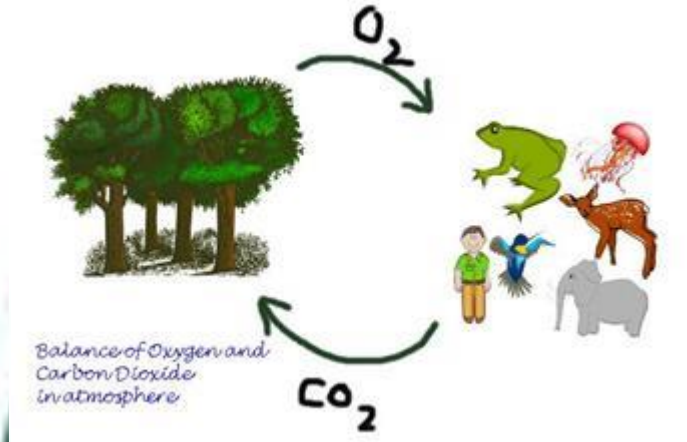
Answer: Forest acts as a natural absorber of rainwater and allows it to seep. It helps in controlling the flow of water and slows it down which helps in preventing flood. Also, the trees present in the forest prevents the rain from directly hitting the ground and bind the soil together which helps in absorption of the rain water and thus prevent flood.

24. What are decomposers? Name any two of them. What do they do in the forest?

Answer: The micro-organisms which convert the dead plants and animals to humus are known as decomposers. Bacteria. Mushrooms etc. are common decomposer. They decompose dead organisms and provide nutrient to trees.

25. Explain the role of forest in maintaining the balance between oxygen and carbon dioxide in the atmosphere.

Answer: Plants release oxygen as a by product during the process of photosynthesis. This oxygen is inhaled by animals for respiration. This respiration process releases carbon dioxide which is used again by plants during photosynthesis. In this way, use and consumption of oxygen and carbon dioxide goes on. They thus maintain the balance of oxygen and carbon dioxide in the atmosphere.



❖ **Long Questions Answers:-**

1. Paheli participated in a 400m race competition held at her school and won the race. When she came home she had mixed feelings of joy and pain as she had cramps in her leg muscles. After a massage she was relieved of the pain. Answer the following questions related to the situation.

(a) What can be the possible reasons for the pain in her legs?

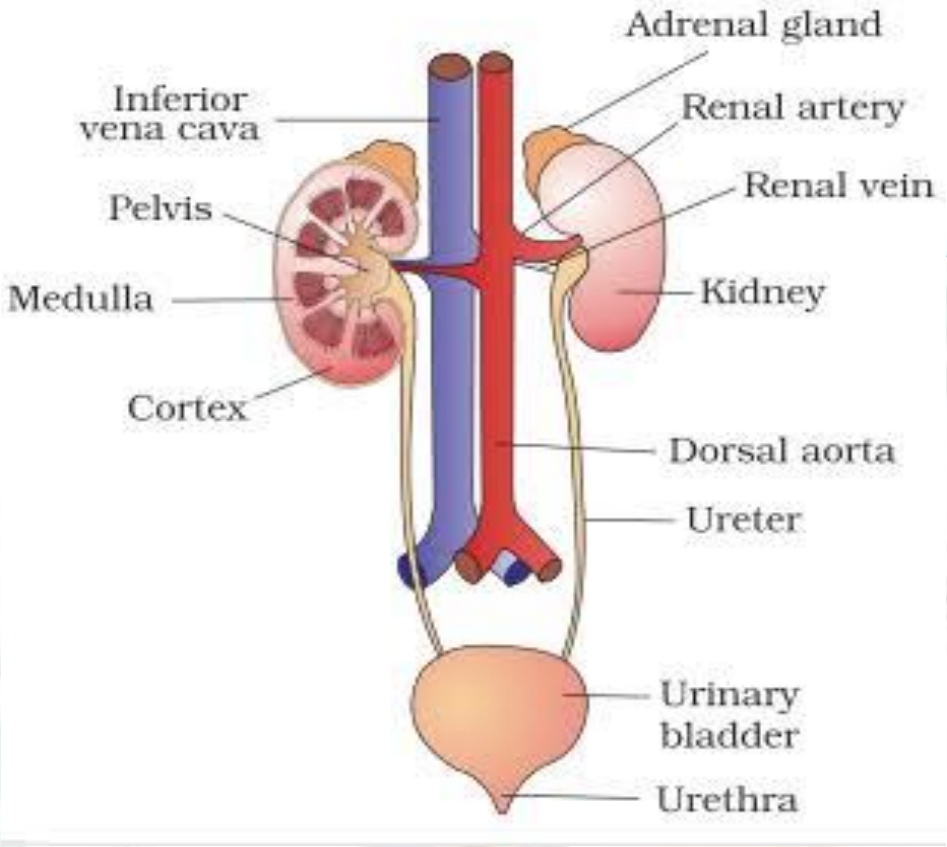
(b) Why did she feel comfortable after a massage?

Ans: (a) Paheli might not have focused on her breathing during the race. The possible reason for pain in her legs could be the accumulation of lactic acid in her muscles. During heavy exercise or running, the muscle cells respire anaerobically due to insufficient supply of oxygen and produce lactic acid.

(b) The massage improved the circulation of blood leading to increased supply of oxygen to the muscle cells. The increased oxygen supply helped in complete breakdown of lactic acid into CO_2 and water. Hence, she felt comfortable after the massage.

2. Draw a diagram of the human excretory system and label the various parts.

Answer:



3. Describe the functions of the heart.

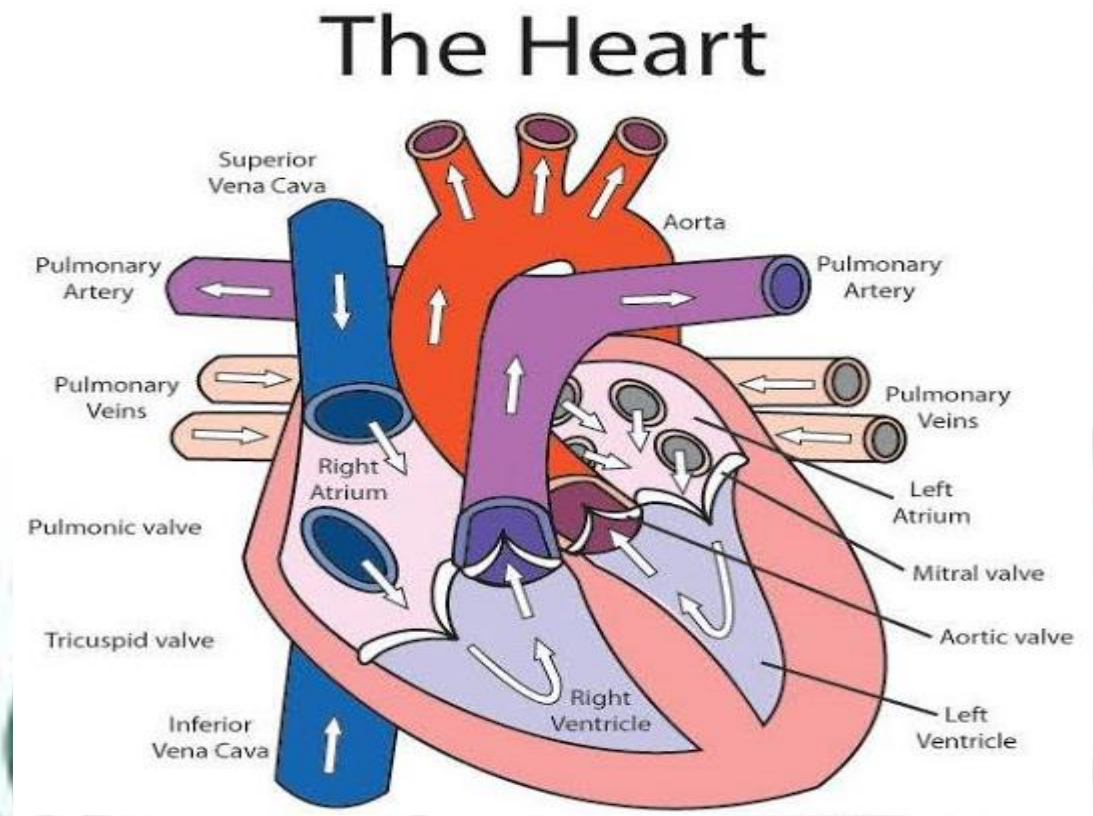
Answer: Functions of the heart:

(i) It helps in the circulation of oxygen rich blood throughout the body by the pumping.

(ii)It receives oxygenated blood from the lungs.

(iii) It also pumps back the blood carrying carbon dioxide to the lungs.

(iv) It shows rhythmic contraction and relaxation for movement of blood.

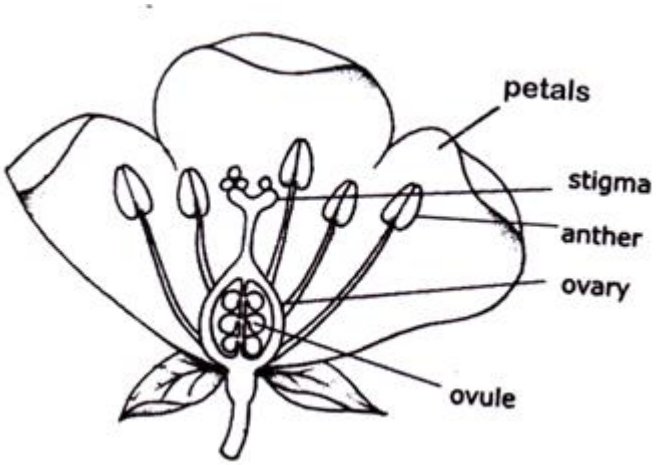


4. In the figure (12.4) of a flower , label the parts whose functions are given below and give their names.

Fig 12.4

(a) The part which contains pollen grains.
(b) The part where the female gamete is formed.
(c) The female reproductive part where pollen grains germinate.
(d) The colourful part of flower which attracts insects.

Ans:



5. Distance between Bholu's and Golu's house is 9 km. Bholu has to attend Golu's birthday party at 7 o'clock. He started from his home at 6 o'clock on his bicycle and covered a distance of 6 km in 40 minutes. At that point, he met Chintu and he spoke to him for 5 minutes and reached Golu's birthday party at 7 o'clock. With what speed did he cover the second part of the journey? Calculate his average speed for the entire journey.

Ans: He started at 6'O clock and travelled for 40 minutes i.e. at 6:40, he travelled 6 km out of 9 km. There he waited for 5 minutes and again started i.e. he resumed his journey at 6:45, therefore he travelled remaining 3 km in 15 minutes.

Time = 15 minutes = 0.25 hr.

Distance = 3 km.

Speed = 3/0.25 km/hr. = 12 km/hr.

Average speed = 9/1 km/hr. = 9 km/hr.

6. The odometer of a car reads 57,321.0 km when the clock shows the time 8.30 AM. The odometer reading was changed to 57,336.0 km. calculate the speed of the car in km/min during this time. Express the speed in km/h also.

Answer: Initial reading of odometer = 57321.0 Km
Final reading of odometer = 57336.0 Km
Total Distance covered = Final reading of odometer - Initial reading of odometer
= 57336.0 - 57321.0 = 15.0 Km
Initial Time = 8:30 AM
Final Time = 8:50 AM
Total time taken = Final time - Initial time = 8:50 - 8:30 = 20 min
We Know that, Speed
= distance coveredTime takendistance coveredTime taken = 1520=0.75 Km/min1520=0.75 Km/min

Speed in Km/h = 0.75×60=45 Km/h0.75×60=45 Km/h

7. How does the magnetic effect of electric current help in the working of an electric bell ? Explain with the help of a diagram.

Ans: An electric bell is the direct application of electromagnets. It consists of the following parts which are fitted on a flat wooden or plastic board. The main components are :-

• Electromagnet

• Armature

• Gong

• Switch

• Contact screw

• Strip spring

• Hammer

WORKING OF A AN ELECTRIC BELL

Step 1: When the switch is pressed, the circuit is complete and a current flows through the electromagnet.

Step 2: The electromagnet attracts the armature towards itself. The hammer attached to it strikes the gong and produces a ringing sound. At the same time the circuit gets broken, the current stops flowing and the electromagnet loses its magnetism.

Step 3: The spring pulls the armature back such that contact is established again and the circuit gets completed. This keeps repeating, with the hammer striking the gong repeatedly, thereby producing a ringing sound as long as the switch gets pressed.

8. "Forests are our lifeline." Write five sentences on this topic.

Ans. Forests are indeed our lifeline due to following reasons:

(i) Forests serve as an oxygen producer to keep us alive.

(ii) During the process of photosynthesis carbon dioxide gets consumed by the plants for preparing food.

(iii) Wood, gum, medicinal plants and many more things are provided by the forests.

(iv) The roots of plants in forest holds the soil firmly and hence saves the soil from erosion.

(v) They also help in maintaining the ground water level.