CLASS 10th - SCIENCE

33 MOST

REPEATED PREVIOUS YEAR QUESTIONS

TOP 33

1. (a) What is the colour of ferrous sulphate crystals? How does this colour change after heating?

(b) Name the products formed on strongly heating ferrous sulphate crystals. What type of chemical reaction occurs in this change

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(b) Name the products formed on strongly heating ferrous sulphate crystals. What type of chemical reaction occurs in this change

ANSWER: (a) The colour of ferrous sulphate is green. It changes to brown after heating.

$$\text{On heating: } FeSO_4.7H_2O \rightarrow FeSO_4(s) + 7H_2O(g)$$

(b) The product formed is ferric oxide (Fe2O3). This is a decomposition reaction.

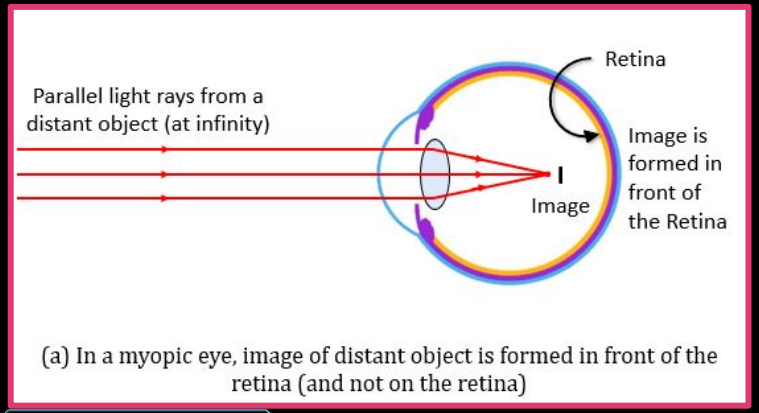
$$\text{On strong heating: } 2FeSO_4(s) \rightarrow Fe_2O_3(s) + SO_2(g) + SO_3(g)$$

TOP 33

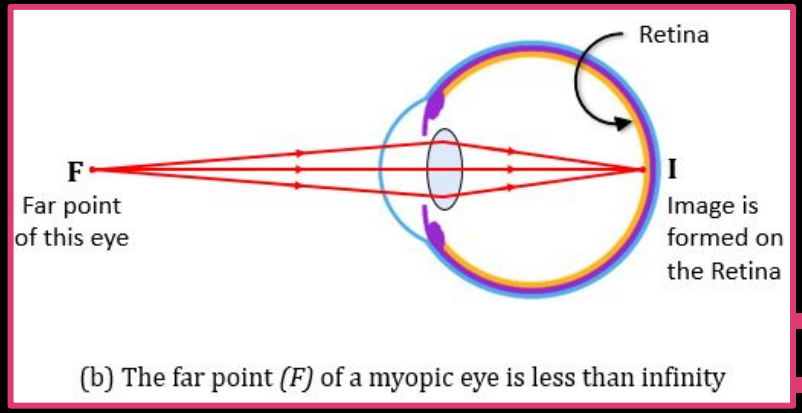
2. A student suffering from myopia is not able to see distinctly the objects placed beyond 5 m. List two possible reasons due to which this defect of vision may have arisen. With the help of ray diagrams, explain

2. A student suffering from myopia is not able to see distinctly the objects placed beyond 5 m. List two possible reasons due to which this defect of vision may have arisen. With the help of ray diagrams, explain

ANSWER: Two possible reason due to which the defect of vision may have arisen are:
(1) increase in curvature of the lens.
(2) increase in length of the eyeball.



(a) In a myopic eye, image of distant object is formed in front of the retina (and not on the retina)



(b) The far point *(F)* of a myopic eye is less than infinity

TOP 33

3. (a) Define excretion.

(b) Name the basic filtration unit present in the kidney.

(c) Draw excretory system in human beings and label the following organs of excretory system which perform following functions:
(i) form urine.
(ii) is a long tube which collects urine from kidney.
iii) store urine until it is passed out.

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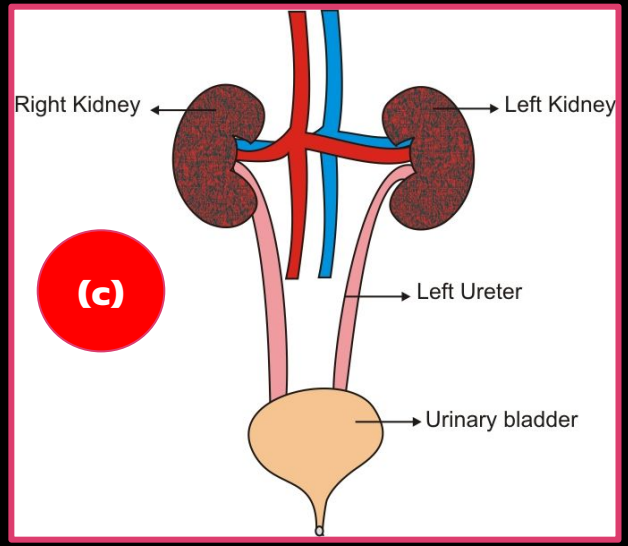
ANSWER: (a) The biological process involved in the removal of these harmful metabolic wastes from the body is called excretion.
(b) The basic filtration unit in the kidney is known as Nephron.
(c) i. kidney form urine.
ii. The ureter is the long tube which collects the urine from Kidney.
iii. The urinary bladder is a structure which stores the urine until it is passed.



TOP 33

4. Both soap and detergent are some type of salts. What is the difference between them? Describe in brief the cleansing action of soap. Why do soaps not form lather in hard water? List two problems that arise due to the use of detergents instead of soaps.

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ANSWER: Soaps are the sodium and potassium salts of long chain carboxylic acids whereas detergents are ammonium or sulfonate salts.

Cleansing action of soap : One part of soap molecules is ionic and dissolves in water. The other part is non-ionic hydrophobic part which dissolves in oil. Thus soap molecules arrange themselves in the form of a micelle.
On rinsing with water soap is washed off, lifting the oily dirt particles with it. Soap does not forms lather in hard water because it forms insoluble precipitate.

Problem due to the use of detergent are :
(i) Detergent are non-biodegradable. (ii) It leads to water or soil pollution

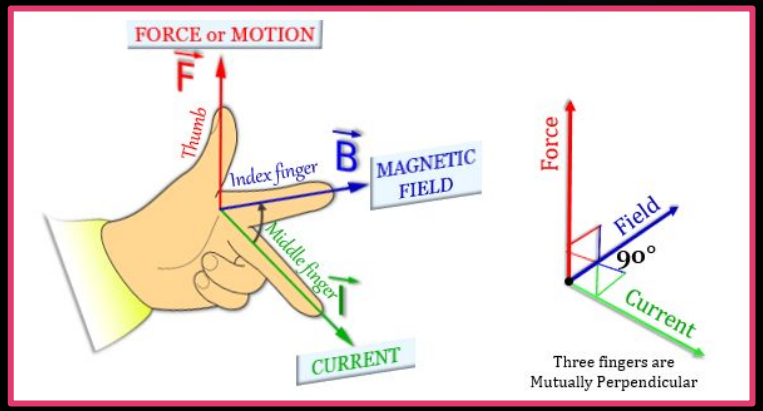
TOP 33

5. (i) Name and state the rule to determine the direction of force experienced by a current carrying straight conductor placed in a uniform magnetic field which is perpendicular to it.

(ii) An alpha particle while passing through a magnetic field gets projected towards north. In which direction will an electron project when it passes through the same magnetic field?

5. (i) Name and state the rule to determine the direction of force experienced by a current carrying straight conductor placed in a uniform magnetic field which is perpendicular to it.
(ii) An alpha particle while passing through a magnetic field gets projected towards north. In which direction will an electron project when it passes through the same magnetic field?

ANSWER: (i) Fleming's left hand rule.
According to this rule : Stretch the thumb, fore finger and middle finger of your left hand such that they are mutually perpendicular. If the forefinger points in the direction of magnetic field and the middle finger in the direction of current, then the thumb will point in the direction of motion or force acting on conductor.



(ii) As the direction of the force on a negatively charged electron will be opposite to that of a positively charged alpha particle hence, an electron will experience a force that pushes it towards the south when it passes through the same magnetic field as that of alpha particle.

TOP 33

6. (a) What is ozone? How is it formed in the upper layers of the Earth's atmosphere? How does ozone affect our ecosystem?

(b) "We do not clean a pond in the same manner as we do in an aquarium." Give reason to justify this statement.

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(b) "We do not clean a pond in the same manner as we do in an aquarium." Give reason to justify this statement.

ANSWER: (a) Ozone is a molecule formed by three atoms of oxygen.
UV radiations split some molecular oxygen (O_2) into free oxygen atoms (O + O).
These atoms then combine with molecular oxygen to form ozone.
Ozone layer shields the surface of the earth from damaging UV radiation of the sun. / Depletion of ozone layer causes harmful effects on the organism.

(b)A pond is a natural ecosystem. It has decomposers whereas an aquarium is an artificial ecosystem and does not contain decomposers. Therefore it needs regular cleaning for proper functioning.

TOP 33

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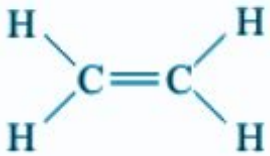
ANSWER: H_2SO_4 is a dehydrating agent. So, ethanol undergoes dehydration i.e., loses a water molecule to form ethane.

$$\underset{\text{Ethanol}}{C_2H_5OH} \xrightarrow[443K]{\text{Conc. } H_2SO_4} \underset{\text{Ethene}}{CH_2=CH_2} + H_2O$$

The product formed is:

Ethene →



TOP 33

8. (a) If the image formed by a mirror for all positions of the object placed in front of it is always diminished, erect and virtual, state the type of the mirror and also draw a ray diagram to justify your answer. Write one use such mirrors are put to and why.

(b) Define the radius of curvature of spherical mirrors. Find the nature and focal length of a spherical mirror whose radius of curvature is + 24 cm.

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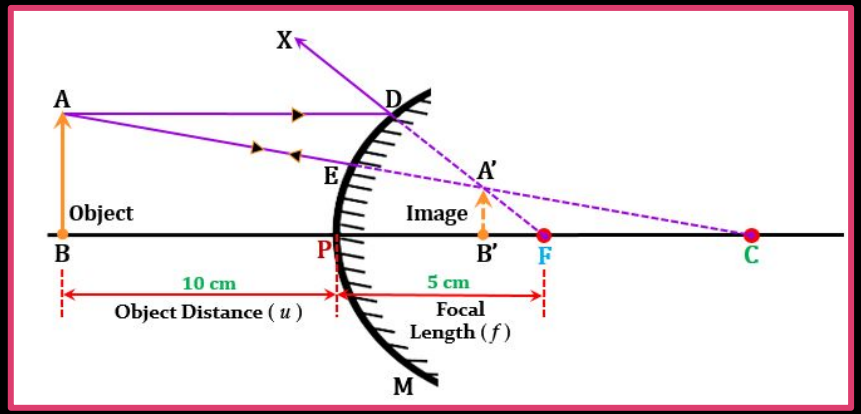
ANSWER:

(a) If the image formed by a mirror for all positions of the object placed in front of it is always diminished, erect and virtual, then the type of the mirror is Convex.
Such mirrors are used as rear view mirrors in automobiles, as this type of mirror gives erect, and a wider field of view of objects coming behind the automobile.



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(b) Define the radius of curvature of spherical mirrors. Find the nature and focal length of a spherical mirror whose radius of curvature is + 24 cm.

ANSWER:

(b) Radius of curvature of a spherical mirror is the distance between pole (P) and centre of curvature, (C).

Given:

Radius of curvature, R =+24 cm

To find: Nature and focal length (f) of a spherical mirror.

Solution:

We know that radius of curvature is given as-

$R=2f$

then, $f = R/2$

Putting the value of R in the above equation, we get- $f = 24/2 = +12$ cm

Thus, the focal length of the spherical mirror is 12cm, and the plus sign implies that the nature of the mirror is concave.

TOP 33

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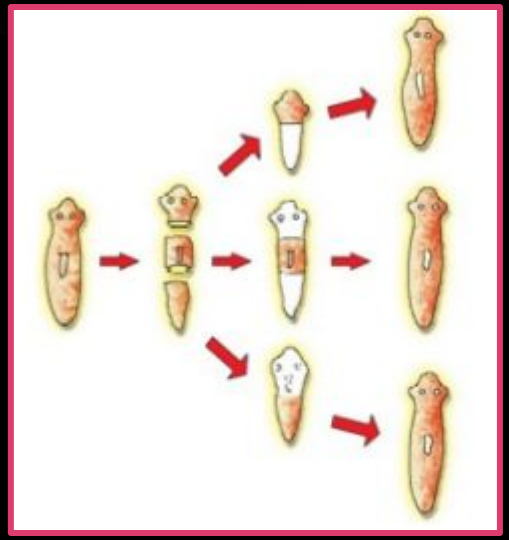
ANSWER: Planarians can regenerate new heads, tails, sides, or entire organisms from small body fragments in a process taking days to weeks. For example, a planarian split lengthwise or crosswise will regenerate into two separate individuals. Whereas in Spirogyra asexual reproduction takes place by fragmentation.



TOP 33

10. State the reason why carbon can neither form C^{4+} cations nor C^{4-} anions, but forms covalent compounds. Also state reasons to explain why covalent compounds:

(i) are bad conductors of electricity?

(ii) have low melting and boiling points ?

10. State the reason why carbon can neither form C^{4+} cations nor C^{4-} anions, but forms covalent compounds. Also state reasons to explain why covalent compounds:
(i) are bad conductors of electricity?
(ii) have low melting and boiling points ?

ANSWER: The atomic number of Carbon is 6 with an electronic configuration of 2, 4. Hence, carbon has 4 electrons in its valence shell. Carbon can lose or gain 4 electrons in order to gain stability. It cannot gain four electrons as carbon atom having 6 protons is very small to handle 10 electrons and it cannot donate electrons as it needs a lot of energy to do so. Hence, it cannot form
C^{4+} cation or C^{4-}anion and thus forms a covalent bond.

1. Covalent compounds are formed by sharing of electrons. They don't have a free electron that is required for electricity transfer (electricity is the flow of free electrons), thus they are bad conductors.

2. Covalent compounds have low melting and boiling points because they have weak intermolecular forces between bonds. Hence, less energy/temperature is needed to break the bonds.

TOP 33

11. An electric motor rated 1100 W is connected to 220 V mains. Find:
(i)The current drawn from the mains,
(ii) Electric energy consumed if the motor is used for 5 hours daily for 6 days.
(iii) Total cost of energy consumed if the rate of one unit is 5.

11. An electric motor rated 1100 W is connected to 220 V mains.
Find:(i)The current drawn from the mains, 5 A
(ii) Electric energy consumed if the motor is used for 5 hours daily for 6days. 33000 Wh
(iii) Total cost of energy consumed if the rate of one unit is 5. 7 165

ANSWER: We know,
power= 1100W
volt= 220V
a) Now, P=VI
1100 = 220×I
1100/220 = I
I = 5 ampere

b) E = Pt
E =1100×5×6
E = 33000Wh
E = 33 KWh

c) 1 KWh=1 unit
33 KWh=33 units
So, 1 unit = Rs.5
33 units = Rs.33×5
cost = Rs.165

TOP 33

12. (a) What happens when in a human female the egg released by the ovary is not fertilised?

(b) Name one bacterial and one viral infection caused due to unsafe sex.

12 (a) What happens when in a human female the egg released by the ovary is not fertilised?
(b) Name one bacterial and one viral infection caused due to unsafe sex.

ANSWER: (a) If the egg is not fertilized, it lives for about one day and the uterine lining formed to receive the fertilized egg slowly breaks and comes out through the vagina as blood and mucous along with unfertilized egg.

(b) Bacterial infection: Gonorrhoea/Syphilis. Viral infection: Warts / AIDS.

TOP 33

13. (a) Distinguish between ‘roasting’ and ‘calcination’.Which of these two is used for sulphide ores and why?

(b) Write a chemical equation to illustrate the use of aluminium for joining cracked railway lines.

(c) Name the anode, the cathode and the electrolyte used in the electrolytic refining of impure copper.

13. (a) Distinguish between 'roasting' and 'calcination'.Which of these two is used for sulphide ores and why?
(b) Write a chemical equation to illustrate the use of aluminium for joining cracked railway lines.
(c) Name the anode, the cathode and the electrolyte used in the electrolytic refining of impure copper.

ANSWER: (a)Roasting: It is the process in which sulphide ores of the metals are converted into oxides by heating them in the presence of excess air, For example zinc sulphide is converted into zinc oxide by roasting.

$$2ZnS(s) + 3O_2(g) \rightarrow^{Heat}_{Roasting} 2ZnO(s) + 2SO_2(g)$$

Calcination: It is the process in which carbonates ores of the metals are decomposed into oxides by heating them in the absence or limited air. For example, zinc carbonate is decomposed into zinc oxide and carbon dioxide by calcination.

$$ZnCO_3(s) \rightarrow^{Heat}_{calcination} ZnO(s) + CO_2(g)$$

Out of roasting and calcination, only roasting is used for sulphide ores. This is because it is easier to obtain metal from its oxide as compared to its sulphide.

13. (a) Distinguish between ‘roasting’ and ‘calcination’.Which of these two is used for sulphide ores and why?
(b) Write a chemical equation to illustrate the use of aluminium for joining cracked railway lines.
(c) Name the anode, the cathode and the electrolyte used in the electrolytic refining of impure copper.

ANSWER: (b)

(c) Anode - Impure Copper
Cathode - Strip of Pure Copper
Electrolyte - Acidified copper sulphate solution

TOP 33

14. A student holding a mirror in his hand, directed the reflecting surface of the mirror towards the Sun. He then directed the reflected light on to a sheet of paper held close to the mirror.

(a) What should he do to burn the paper ?

(b) Which type of mirror does he have ?

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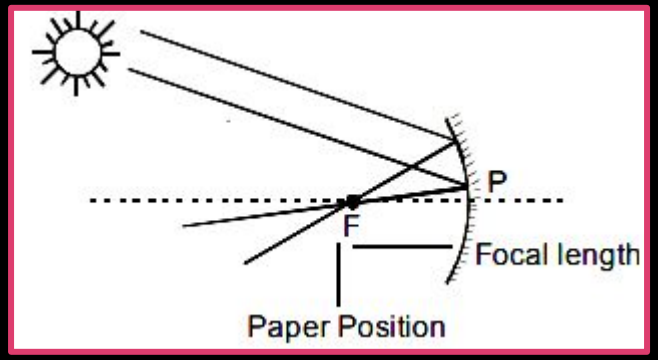
(a) What should he do to burn the paper ?
(b) Which type of mirror does he have ?

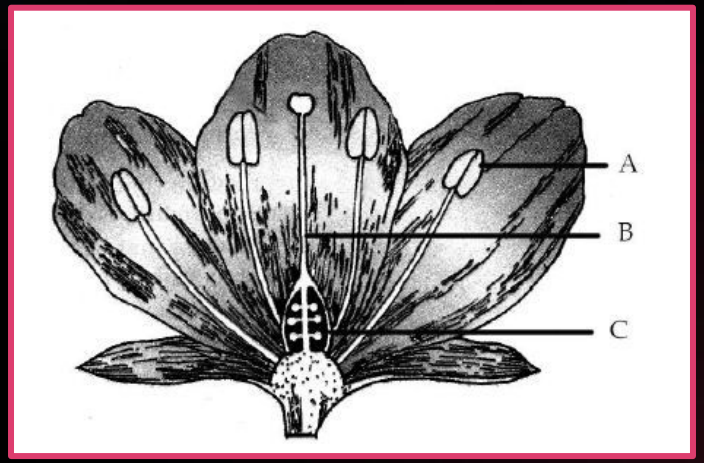
ANSWER: a) To burn the paper ,student should move (adjust)the mirror in such a way that paper is positioned at the focus of the mirror .

(b) He has concave mirror



TOP 33

15. Name the parts A, B and C shown in the following diagram and state one function of each.



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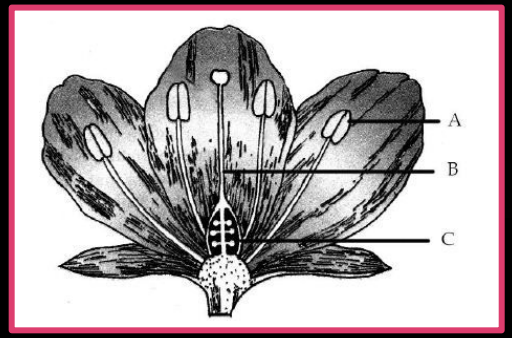

ANSWER: A- Anther: It plays an important role in reproduction. It is responsible for producing male gametophyte called pollen

B- Filament : It is a stalk-like structure that attaches to the base of the flower and supports anther. It carries nutrients to anther. Long filaments help anther to attract pollinating agents like bees and birds

C- Ovary: Ovary is the most important reproductive part of a flower. Ovary holds ovules, which fertilizes to develop into a seed.

TOP 33

16. Write the molecular formula of the following carbon compounds:
(i) Methane
(ii) Propane

(b) Carbon compounds have low melting and boiling points. Why?

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(i) Methane
(ii) Propane

(b) Carbon compounds have low melting and boiling points. Why?

ANSWER: (a) Molecular formula of the carbon compounds are:
Methane — CH_4
Propane — C_3H_8

(b) As carbon compounds are covalent compounds and forces of attraction between these molecules is not very strong hence they have low melting and boiling points.

TOP 33

17. An object is placed at a distance of 30 cm from a concave lens of focal length 15 cm. List four characteristics (nature, position, etc.) of the image formed by the lens.

17. An object is placed at a distance of 30 cm from a concave lens of focal length 15 cm. List four characteristics (nature, position, etc.) of the image formed by the lens.

ANSWER:

Given, object distance, u = - 30 cm and focal length, f = -15 cm

Let 'v' be the image distance.

We know that,

$$\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$$

$$\frac{1}{v} - \frac{1}{(-30)} = \frac{1}{(-15)}$$

$$\frac{1}{v} = \frac{-1}{15} - \frac{1}{30}$$

$$\frac{1}{v} = \frac{-2-1}{30} = \frac{-3}{30} = \frac{-1}{10}$$

$$\Rightarrow v = -10 \text{ cm}$$

Characteristics of image :

(i) The image is formed at a distance of 10 cm from the concave lens on the left side.

(ii) Image formed is virtual.

(iii) Image formed is erect.

(iv) The size of the image formed is diminished.

TOP 33

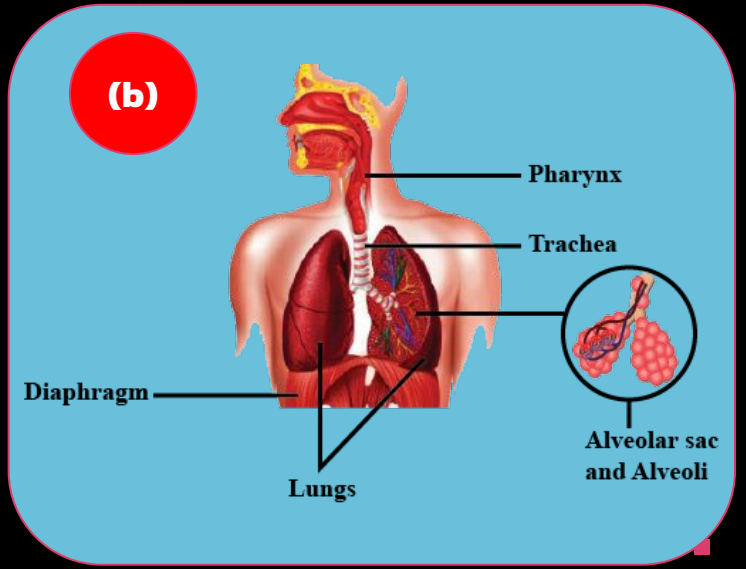
18. (a) Why is there a difference in the rate of breathing between aquatic organisms and terrestrial organisms? Explain.

(b) Draw a diagram of human respiratory system and label - pharynx, trachea, lungs, diaphragm and alveolar sac on it.

18. (a) Why is there a difference in the rate of breathing between aquatic organisms and terrestrial organisms? Explain.

(b) Draw a diagram of human respiratory system and label - pharynx, trachea, lungs, diaphragm and alveolar sac on it.

ANSWER: (a) The rate of breathing in aquatic organisms is much faster than in terrestrial organisms because aquatic animals breathe from the oxygen dissolved in water. The dissolved oxygen present in water bodies is less as compared to the amount of oxygen present in the atmosphere.



TOP 33

19. On heating blue coloured powder of copper (II) nitrate in a boiling tube, black copper oxide, O_2 and a brown gas X is formed.

(a) Identify the type of reaction and the gas X.

(b) Write balanced chemical equation of the reaction.

(c) Write the pH range of aqueous solution of the gas X.

19. On heating blue coloured powder of copper (II) nitrate in a boiling tube, black copper oxide, O2 and a brown gas X is formed.
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(b) Write balanced chemical equation of the reaction.
(c) Write the pH range of aqueous solution of the gas X.

ANSWER:

- The chemical reaction in which one reactant breaks down into two or more products is known as a decomposition reaction(AB=A+B).
- The heating of Copper (II) nitrate, results in the loss of a water molecule and anhydrous Copper (II) nitrate is formed.
- On further heating it gives a black residue of Copper oxide, a brown colour Nitrogen dioxide gas, and colorless gas.
- The balanced chemical equation of the reaction is,

$$\underset{\text{Copper (II) nitrate}}{2\,Cu(NO_3)_2(s)} \rightarrow \underset{\text{Copper}}{2\,CuO(s)} + \underset{\text{Nitrogen dioxide}}{4\,NO_2(g)} + \underset{\text{Oxygen}}{O_2(g)}$$

- Therefore, the brown gas is formed is Nitrogen dioxide respectively.
- Since Nitrogen dioxide is acidic, the pH range of Nitrogen dioxide is less than 7.
- Here, the Copper (II) decomposes to form copper oxide, nitrogen dioxide gas, and oxygen gas as products, therefore, this is a decomposition reaction.

TOP 33

20. (a) Write the function of each of the following parts of human eye:
(i) Cornea (ii) Iris (iii) Crystalline lens (iv) Ciliary muscles

(b) Why does the sun appear reddish early in the morning? Will this phenomenon be observed by an astronaut on the Moon? Give reason to justify your answer.

20. (a) Write the function of each of the following parts of human eye:
(i) Cornea (ii) Iris (iii) Crystalline lens (iv) Ciliary muscles
(b) Why does the sun appear reddish early in the morning? Will this phenomenon be observed by an astronaut on the Moon? Give reason to justify your answer.

ANSWER:

(a) (i) Cornea: If refracts most of the light into eyes.
(ii) Iris: Gives colour to eyes, controls size of pupil.
(iii) Crystalline Lens: Focuses the image of the object on the retina.
(iv) Ciliary Muscles: Holds the eye lens and adjusts its focal length.

(b) At sunrise , the sun is located near horizon of earth and hence light travel a long distance through earth atmosphere.The suspended atmospheric particle have wavelength similar to blue light.When sunlight falls on atmosphere the blue light is scattered out by these atmospheric particle the light reaches earth is predominantly red.Hence,red light reaches our eyes, the sun and its surrounding appear reddish No, same phenomenon will not occur on moon as there is no atmospheric to scatter light.

TOP 33

21. (a) What are hormones?
State one function of each of the following hormones:
(i) Thyroxine
(ii) Insulin

(b) Name the hormones secreted by the following endocrine glands and specify one function of each :
(a) Thyroid (b) Pituitary (c) Pancreas

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ANSWER: (a) Hormones are the chemical substances which coordinate and control the activities of living organisms and also their growth.
(i) Function of Thyroxine: This hormone regulates the metabolism of carbohydrates and fats.
(ii) Function of insulin: This hormone helps in regulating sugar level in the blood.
(b) (i) Thyroid secretes thyroxine hormone.
Function: Thyroxine regulates carbohydrate, protein and fat metabolism in the body so as to provide the best balance for growth.
(ii) Pituitary secretes the growth hormone.
Function: Growth hormone regulates growth and development of the body.
(iii) Pancreas secretes insulin.
Function: helps in regulating blood sugar levels.

TOP 33

22. List the important products of the Chlor-alkali process. Write one important use of each

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ANSWER:

- There are three products that are produced in the Chlor-alkali process. These are Sodium Hydroxide (NaOH), chlorine gas (Cl2), and hydrogen gas (H2)

Uses of sodium hydroxide:

- It is used for making soaps and detergents.

Uses of chlorine:

- It is used in the production of bleaching powder.

Uses of Hydrogen gas:

- It is used in the hydrogenation of oils to obtain vegetable ghee.

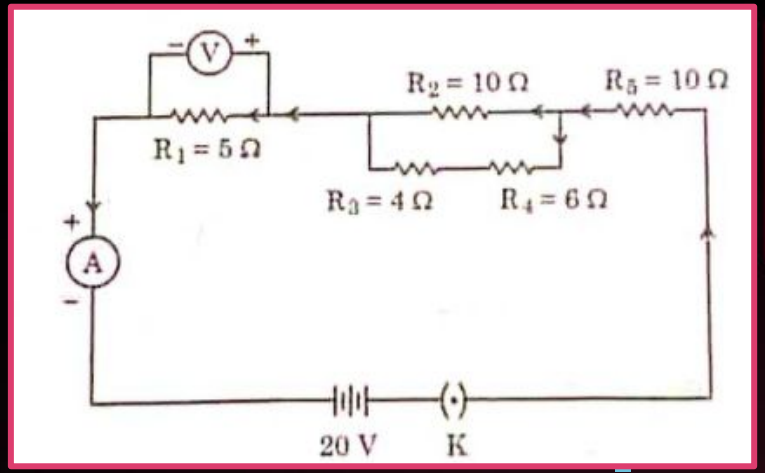
TOP 33

23. Study the following circuit and find:

(i) Effective resistance of the circuit

(ii) Current drawn from the battery

(iii) Potential difference across the 5 Ω resistor-



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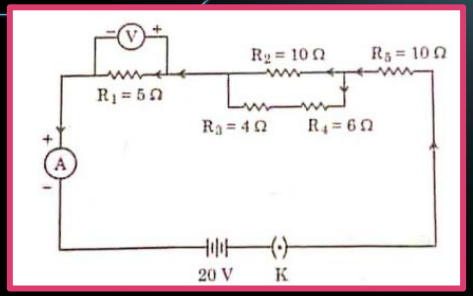

ANSWER:

(i) Effective resistance of the circuit

R_3 and R_4 are in series and both are parallel to R_2

$R_3 + R_4 = 10$ Ohm

Effective Resistance across R_2 (R')

$$\frac{1}{R'} = \frac{1}{R_2} + \frac{1}{R_3 + R_4}$$

R' = 5 Ohm

Now, R_1', R' and R_5 are in series

Effective resistance of the circuit = $R_1 + R' + R_5$

= 5 + 5 + 10

= 20 Ohm

(ii) Current drawn from battery

V = IR

$$I = \frac{V}{R}$$

$$I = \frac{20}{20}$$

I = 1 A

(iii) Potential difference across 5-ohm resistor

V = IR

V = 1 × 5

V = 5V

TOP 33

24. (i) In a cross between violet flowered plants and white flowered plants, state the characteristics of the plants obtained in the F, progeny.
(ii) If the plants of F, progeny are self-pollinated, then what would be observed in the plants of F, progeny?
(iii) If 100 plants are produced in F, progeny, then how many plants will show the recessive trait?

24. (i) In a cross between violet flowered plants and white flowered plants, state the characteristics of the plants obtained in the F, progeny.
(ii) If the plants of F, progeny are self-pollinated, then what would be observed in the plants of F, progeny?
(iii) If 100 plants are produced in F, progeny, then how many plants will show the recessive trait?

ANSWER: (i) In a cross between violet flowered (VV) plants and white flowered (vv) plants, the plants obtained in the F_1 progeny will bear purple flowers as purple flower is dominant trait. Genotype of the F_1 progeny will be heterozygous (Vv).

(ii) If the plants of F_1 progeny are self-pollinated, the plants in F_2 generation will be purple flowered and white flowered in a ratio of 3:1

(iii) If 100 plants are produced in F_2 progeny, then 25 plants will show the recessive trait.

TOP 33

25. When ethanol reacts with ethanoic acid in the presence of conc. H_2S_4 a substance with fruity smell is produced. Answer the following :

(i) State the class of compounds to which the fruity smelling compounds belong. Write the chemical equation for the reaction and write the chemical name of the product formed.

(ii) State the role of conc. H_2SO_4 in this reaction.

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(i) State the class of compounds to which the fruity smelling compounds belong. Write the chemical equation for the reaction and write the chemical name of the product formed.
(ii) State the role of conc. H_2SO_4 in this reaction.

ANSWER: (i) The fruity smelling compounds belong to the class of esters (Ethyl acetate).

The reaction of an alcohol with an acid to from ester and water is called as esterification.

CH_3COOH (Ethanoic acid) + C_2H_5OH (Ethanol) → $CH_3COOC_2H_5$ (Ethyl Acetate) +H_2O

Here, the ester formed is Ethyl Acetate. It is a sweet smelling ester.

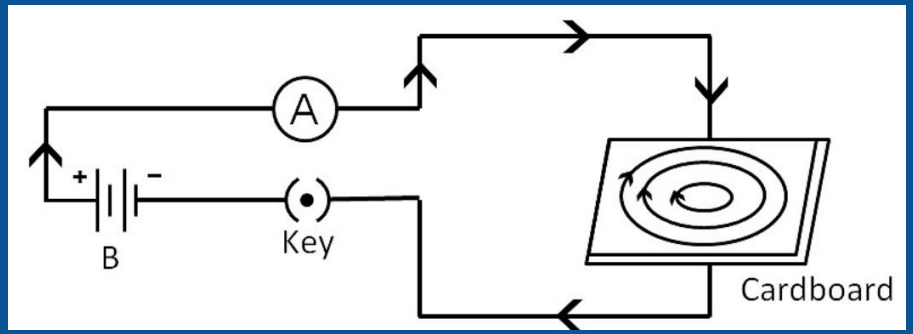
(ii) The concentrated H_2SO_4 acts as a catalyst and a dehydrating agent and helps in the removal of water formed in the reaction between alcohol and carboxylic acid.

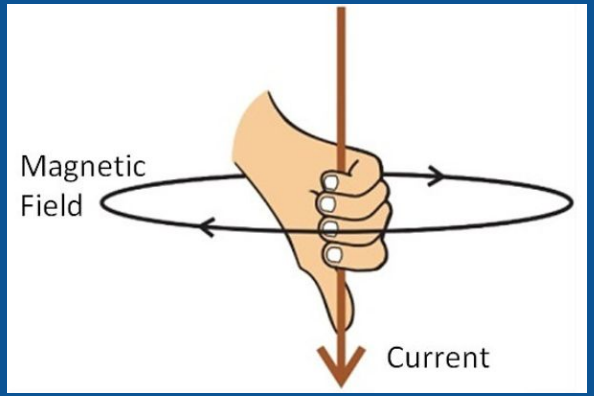
TOP 33

26. Draw the pattern of magnetic field lines produced around a current carrying straight conductor passing perpendicularly through a horizontal cardboard. State and apply right-hand thumb rule to mark the direction of the field lines. How will the strength of the magnetic field change when the point where magnetic field is to be determined is moved away from the straight conductor? Give reason to justify your answer.

26. Draw the pattern of magnetic field lines produced around a current carrying straight conductor passing perpendicularly through a horizontal cardboard. State and apply right-hand thumb rule to mark the direction of the field lines. How will the strength of the magnetic field change when the point where magnetic field is to be determined is moved away from the straight conductor? Give reason to justify your answer.

ANSWER: If a current carrying conductor is imagined to be held in your right hand such that the thumb points along the direction of current, then the direction of the wrapped fingers will give the direction of magnetic field lines.





TOP 33

27. Write down difference between Arteries and Veins.

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ANSWER:

Arteries	Veins
1. Arteries are bright red.	1. Veins are blue in color.
2. Arteries carry blood away from heart.	2. Veins carry blood towards the heart.
3. Arteries carry oxygenated blood	3. Veins carry deoxygenated blood.
4. Arteries are more muscular in comparative to veins	4. Veins are less muscular in comparative to arteries.
5. Arteries contain high blood pressure.	5. Veins contain low blood pressure
6. Arteries are divided into arterioles.	6. Veins are divided into venules.

TOP 33

28. The teacher while conducting practicals in the laboratory divided the students into three groups and gave them various solutions to find out their pH and classify them into acidic, basic and neutral solutions.
Group A Lemon juice, vinegar, colourless aerated drink
Group B Tomato juice, coffee, ginger juice
Group C Sodium hydroxide, sodium chloride, lime water

(a) For the solutions provided, which group is/are likely to have pH value (i) less than 7, and (ii) greater than 7 ?

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ANSWER:

(a) (i) Groups A and B- less than 7

(ii) Group C - greater than 7

TOP 33

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b) List two ways of determining pH of a solution

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b) List two ways of determining pH of a solution

ANSWER:

(b) pH paper and universal indicator

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Group B Tomato juice, coffee, ginger juice
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(c) Explain, why the sour substances such as lemon juice are effective in cleaning the tarnished copper vessels

OR

(c) pH has great importance in our daily life. Justify this statement by giving two examples.

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ANSWER:

(c) · Copper vessel is tarnished due to formation of BasiC copper carbonate.
· Lemon juice being acidic react with copper oxide and the salt formed is washed away

OR

- An optimal pH is required for digestion.
- Change in pH can cause tooth decay.
- Animals and plants defend themselves through change in pH.
- Survival of aquatic life becomes difficult when pH of river water becomes low.

TOP 33

31. $MnO_2 + x\ HCL \rightarrow MnCl_2 + y\ H_2O + z\ Clz$
In order to balance the above chemical equation, the values of x, y and z respectively are:

(a) 6, 2, 2
(b) 4, 1, 2
(c) 4,2,1
(d) 2, 2, 1

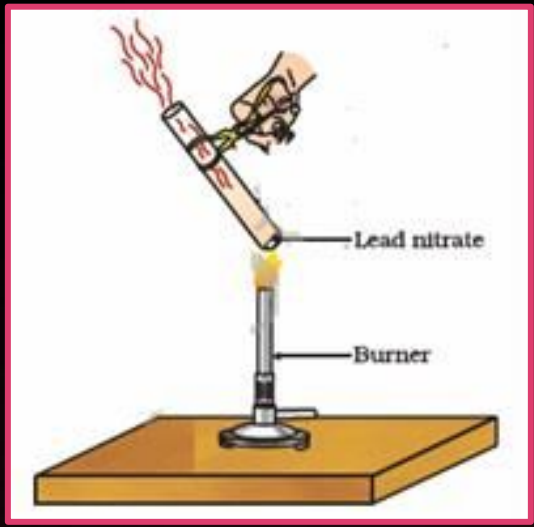
TOP 33

32. Select washing soda from the following:

(a) $NaHCO_3$
(b) $Na_2CO_3.5H_2O$
(c) $Na_2CO_3.10H_2O$
(d) NaOH

TOP 33

33. The emission of brown fumes in the given experimental set-up is due to:
(a) thermal decomposition of lead nitrate which produces brown fumes of nitrogen dioxide.
(b) thermal decomposition of lead nitrate which produces brown fumes of lead oxide.
(c) oxidation of lead nitrate forming lead oxide and nitrogen dioxide.
(d) oxidation of lead nitrate forming lead oxide and oxygen.



Thanks