

Solved Question Paper 2019
CBSE Class 10
Subject - Science

Time allowed: 3 hours

Maximum Marks: 80

General Instructions:

- (i) The question paper comprises of five sections – A, B, C, D and E.
- (ii) Question numbers 1 and 2 in Section-A are one mark questions. They are to be answered in one word or in one sentence.
- (iii) Question numbers 3 to 5 in Section- B are two marks questions. These are to be answered in about 30 words each.
- (iv) Question numbers 6 to 15 in Section-C are three marks questions. These are to be answered in about 50 words each.
- (v) Question numbers 16 to 21 in Section-D are 5 marks questions. These are to be answered in 70 words each.
- (vi) Question numbers 22 to 27 in Section- E are based on practical skills. Each question is a two marks question. These are to be answered in brief.
- (vii) Internal choices are given in sections B, C, D and E.

SECTION - A

1. If you could use any source of energy for heating your food which one would you prefer? State one reason for your choice.

Answer.

Natural gas can be used for heating food because it is a clean source of energy that does not cause any environmental pollution.

2. Write the function of voltmeter in an electric circuit.

Answer.

A voltmeter is used for measuring the potential difference between two points in an electronic circuit.

SECTION-B

3. What happens to the image distance in the normal human eye when we decrease the distance of an object, say 10 m to 1 m? Justify your answer.

Answer.

The image distance remains the same due to eye's ability of accommodation the focal length of eye lens is adjusted. In order to see the nearer object the ciliary muscles contract due to which lens becomes thick and focal length is decreased to obtain a clear image at retina.

4. List two different functions performed by pancreas in our body.

Answer.

Pancreas performs following two main functions in our body:

(i) Exocrine function: It works as an exocrine gland and helps in the digestion of food. It produces various enzymes such as amylase, lipase and trypsin which help to breakdown carbohydrate, fats and proteins respectively.

(ii) Endocrine function: While working as an endocrine gland it secretes two major hormones, insulin and glucagon which regulate the level of sugar present in the blood.

5. How it can be proved that the basic structure of the Modern Periodic Table is based on the electronic configuration of atoms of different elements?

Answer.

In Modern's periodic table we observe the periodicity in properties of the elements in which elements with the similar properties repeat after certain regular intervals when arranged in increasing order of their atomic numbers. The cause of periodicity in properties is the repetition of similar outer electronic configuration after certain regular intervals. This distinct feature of periodicity in properties of the elements is enough to show that the Modern Periodic Table is based on the electronic configuration of atoms of different elements.

OR

5. The electronic configuration of an element is 2, 8, 4. State its :

(a) group and period in the Modern Periodic Table.

(b) name and write its one physical property.

Answer.

Since the electronic configuration of given element is 2, 8, 4, it's atomic number is 14 with having 4 valence electrons. Therefore,

(a) It belongs to third period and fourth group of the Modern Periodic Table.

(b) Name of this element is silicon (Si).

Physical properties of silicon: (Any one)

It is solid at room temperature.

It is a non-metal.

It has a very high melting point.

SECTION-C

6. How can we help in reducing the problem of waste disposal? Suggest any three methods.

Answer.

We can help in reducing the problem of waste disposal by adopting following methods:

- By keeping the biodegradable waste separate from the non-biodegradable waste.
- By reducing, reusing and recycling the materials.
- By keeping the biodegradable waste separate from non-biodegradable waste.

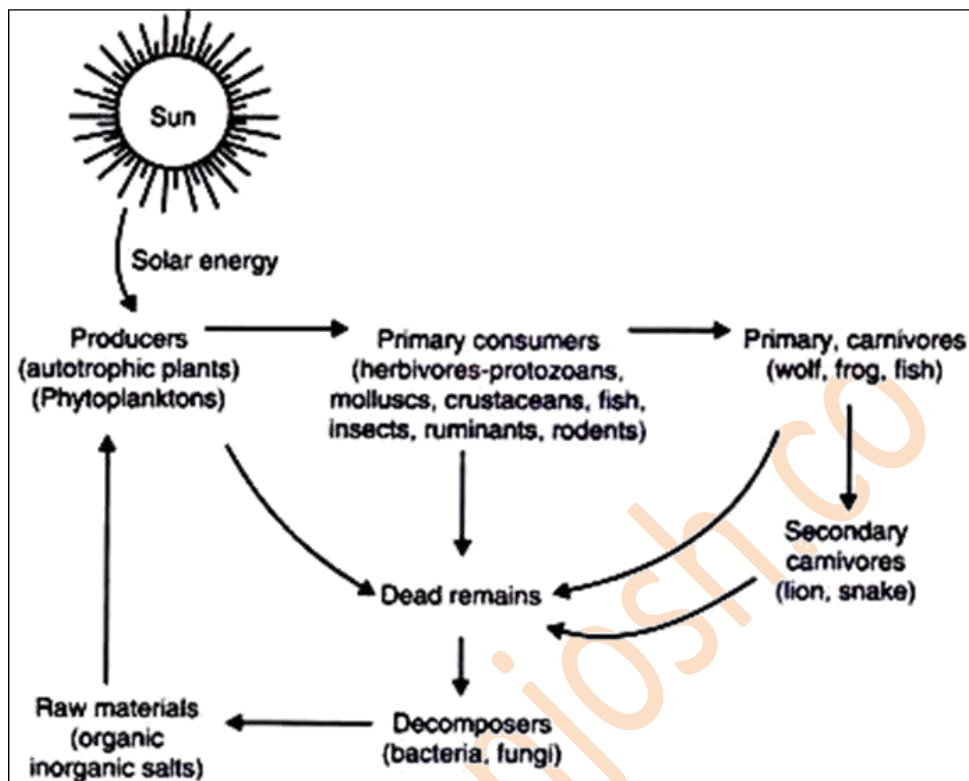
OR

6. Define an ecosystem. Draw a block diagram to show the flow of energy in an ecosystem.

Answer.

Ecosystem: Ecosystem is defined as the structural, functional and self-sustaining unit of biosphere, which consists of biotic and abiotic components.

Diagram to show the flow of energy in an ecosystem is given below:



7. List three advantages each of :

- (i) exploiting resources with short term aims, and
- (ii) using a long term perspective in managing our natural resources.

Answer.

(i) Advantages of exploiting resources with short term aims:

- Resources will be available in large quantity for present generation.
- Speed of development will be accelerated.
- The economy growth rate will become faster.

(ii) Advantages of using a long term perspective in managing our natural resources:

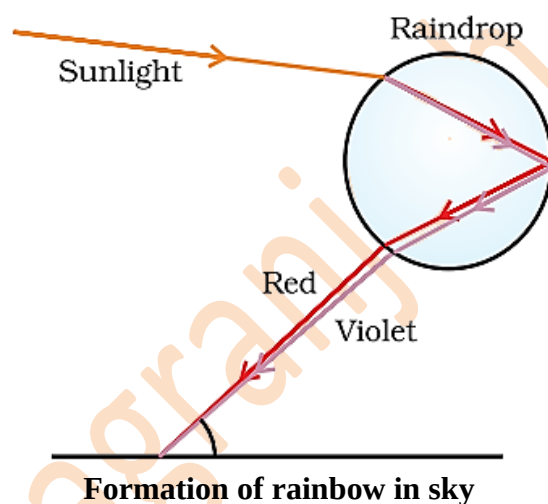
- Both present and future generations will get to utilise the resources to fulfil their needs.
- It will ensure uniform distribution of resources among all people
- Environmental problems and damage to the environment will not be caused.

8. What is a rainbow? Draw a labelled diagram to show the formation of a rainbow.

Answer.

A rainbow is a natural spectrum appearing in the sky after a rain shower. It is caused by dispersion of sunlight by tiny water droplets, present in the atmosphere. A rainbow is always formed in a direction opposite to that of the Sun.

The water droplets act like small prisms. They refract and disperse the incident sunlight, then reflect it internally, and finally refract it again when it comes out of the raindrop. Due to the dispersion of light and internal reflection, different colours reach the observer's eye which we call rainbow.



9. Nervous and hormonal systems together perform the function of control and coordination in human beings. Justify this statement with the help of an example.

Answer.

The nervous system controls and coordinates all the functions in the body by working in close coordination with the hormonal system. Nervous system consists of receptors that receive the stimulus from surrounding environment and transfer them through motor actions.

Simultaneously, the hormonal system is stimulated to produce the required hormones that may trigger the required biological process in the body so as to encounter the stimulus.

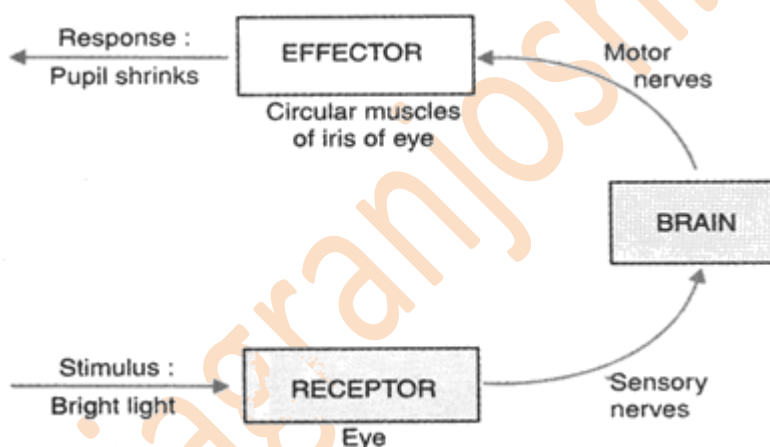
Example: One such example showing the close coordination between the nervous and hormonal systems is the increase in our heart beat rate on facing a threat or fright. Actually, when the body is suddenly faced with a threat, then the message is transmitted to the brain which then triggers

the adrenal gland to release adrenalin, one of the fastest-acting hormones, into the blood. Adrenalin quickly increases our heart rate. It also affects the distribution of blood, causing an increase in blood pressure and more blood to flow to the muscles. Together these various nervous and hormonal processes coordinate the body's preparation for the so-called "fight or flight" reaction. This shows that there is considerable co-ordination between nerves and hormones.

10. Trace the sequence of events which occur when a bright light is focused on your eyes.

Answer.

Following diagram shows the sequence of events which occur when a bright light is focused on your eyes:

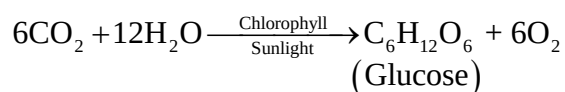


When bright light is focused on our eyes, the photoreceptors generate electric impulses and send it to the spinal cord via the sensory neurons from where the impulse reaches our brain. The brain interprets the message and sends it back to the effector muscles via the motor neurons which instruct the muscles to contract causing the eyelids to close.

11. What is photosynthesis? Explain its mechanism.

Answer.

Photosynthesis is a biological process by which all green plants prepare their food with the help of sunlight water and carbon dioxide.

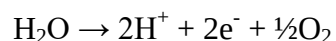


Mechanism of photosynthesis:

There are two major phases found in photosynthesis: Light reaction and dark reaction.

(i) Light reaction: It is a light dependent reaction.

Mechanism: Here chlorophyll on exposure to light energy becomes activated by absorbing photons. As a result of these reactions energy rich molecules like ATP and NADPH_2 are synthesised which facilitate the splitting of water molecule to release oxygen gas as by product.



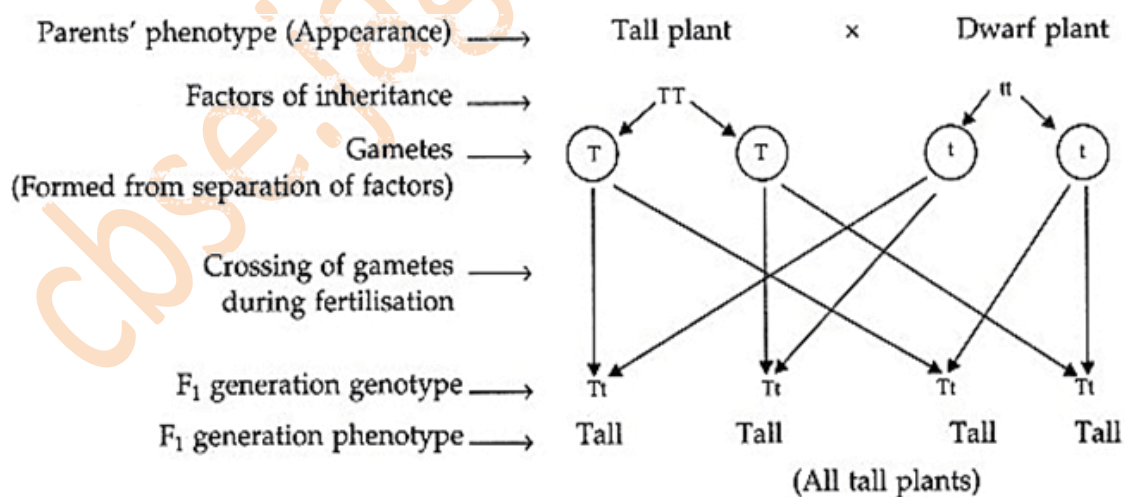
(ii) Dark reaction : Dark reactions do not depend on light. H^+ ions produced in photolysis are picked up by special compound NADP to form NADPH. The hydrogen of the NADPH is used to combine with CO_2 by utilising ATP energy which results in production of glucose.

12. Name the plant Mendel used for his experiment. What type of progeny was obtained by Mendel in F_1 and F_2 generations when he crossed the tall and short plants? Write the ratio he obtained in F_2 generation plants.

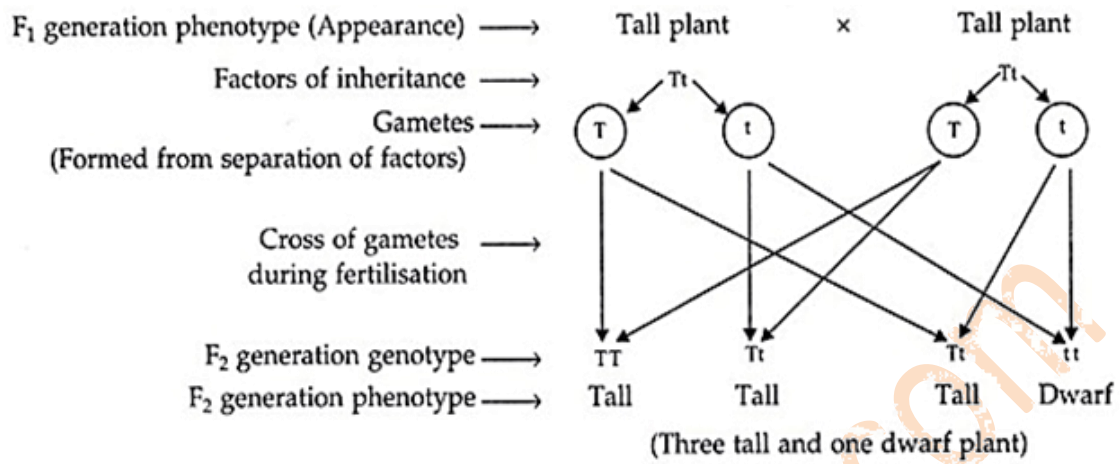
Answer.

Mendel used pea plant for his experiment.

Mendel first crossed pure-breed tall pea plants with pure-breed dwarf pea plant and found that only tall plants were produced in the first generation or F_1 generation. No dwarf pea plants were obtained in the first progeny.



(ii) Mendel then crossed the tall pea plants of F_1 generation and found that tall and dwarf plants were obtained in the second generation i.e., F_2 generation.



The ratio obtained in F_2 generation plants was 3:1 (3 tall plants and 1 dwarf plant).

OR

12. List two differences between acquired traits and inherited traits by giving an example of each.

Answer.

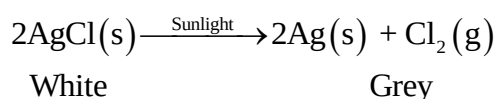
Differences between acquired traits and inherited traits with examples are given below:

Acquired Traits	Inherited Traits
1. These are the traits developed during lifetime.	1. These are the traits present since birth.
2. They cannot be inherited by the offsprings	2. They can be inherited by the offsprings.
3. These are somatic variations.	3. These are genetic variations.
Example: Knowledge, learning dance or playing any instrument, building muscles, etc.	Example: Hair colour, height, attached or free earlobe, etc.

13. 2 g of silver chloride is taken in a china dish and the china dish is placed in sunlight for sometime. What will be your observation in this case? Write the chemical reaction involved in the form of a balanced chemical equation. Identify the type of chemical reaction.

Answer.

Silver chloride is white in colour but after exposing it to sunlight, it turns grey. This happens due to the decomposition of silver chloride into silver and chlorine by sunlight.



This is a decomposition reaction.

OR

13. Identify the type of reactions taking place in each of the following cases and write the balanced chemical equation for the reactions.

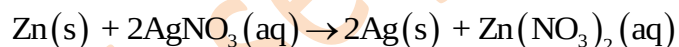
(a) Zinc reacts with silver nitrate to produce zinc nitrate and silver.

(b) Potassium iodide reacts with lead nitrate to produce potassium nitrate and lead iodide.

Answer.

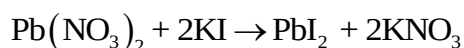
(a) Here, zinc being more reactive displaces the less reactive silver from aqueous salt solution to form zinc nitrate. Thus it is a displacement reaction.

Chemical equation for the reaction is:



(b) As the reaction between potassium iodide and lead nitrate involves the exchange of ions so it is a double displacement reaction.

Chemical equation for the reaction is:



14. Based on the group valency of elements write the molecular formula of the following compounds giving justification for each:

(i) Oxide of first group elements.

(ii) Halide of the elements of group thirteen, and

(iii) Compound formed when an element, A of group 2 combines with an element, B of group seventeen.

Answer.

(i) Oxide of first group elements:

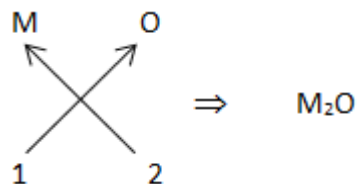
Let first group elements be represented as M

$\therefore$ Valency of M = +1

Oxide: O

Valency of O = -2

Therefore, chemical formula is:



(ii) Halide of the elements of group thirteen:

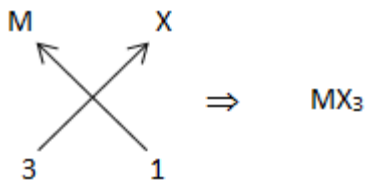
Let group 13 elements be represented as M

$\therefore$ Valency of M = +3

Halide: X

Valency of X = -1

Therefore, chemical formula is:



(iii) Compound formed when an element, A of group 2 combines with an element, B of group seventeen.

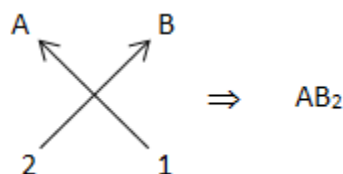
Here element A belongs to group 2.

$\therefore$ Valency of A = +2

Also, element B belongs to group 17.

$\therefore$ Valency of B = -1

Therefore, chemical formula is:



15. Explain the following:

(a) Sodium chloride is an ionic compound which does not conduct electricity in solid state where as it does conduct electricity in molten state as well as in aqueous solution.

(b) Reactivity of aluminium decreases if it is dipped in nitric acid.

(c) Metals like calcium and magnesium are never found in their free state in nature.

Answer.

(a) In solid state, the constituent ions of sodium chloride are held together in fixed positions hence they are not able to move freely. Due to this sodium chloride does not conduct electricity in solid state. However in the molten state and aqueous solution, Na^+ and Cl^- ions of sodium chloride are free to flow and therefore make it a good conductor of electricity.

(b) Nitric acid (HNO_3) is a strong oxidising agent. When aluminium is dipped in nitric acid a layer of aluminium oxide is formed on the surface of the metal, which prevents it from further reaction.

(c) Metals like calcium and magnesium come from the group of alkaline earth metals. They are the most reactive metals and readily react with atmospheric oxygen and other gases. Therefore they are found in nature in the form of their compounds only.

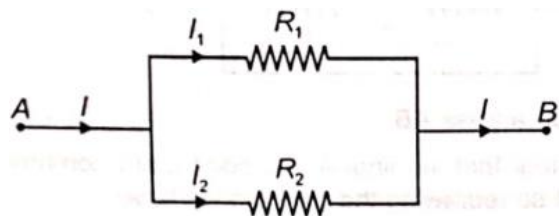
SECTION-D

16. (a) With the help of a suitable circuit diagram prove that the reciprocal of the equivalent resistance of a group of resistances joined in parallel is equal to the sum of the reciprocal of the individual resistances.

(b) In an electric circuit two resistors of 12Ω each are joined parallel to a 6 V battery. Find the current drawn from the battery.

Answer.

(a) Consider two resistances R_1 and R_2 , connected in parallel across AB.



It is observed that the total current I , is equal to the sum of the separate currents through each branch of the combination.

Thus, $I = I_1 + I_2$

Let R_p be the equivalent resistance of the parallel combination of resistors. By applying Ohm's law to the parallel combination of resistors, we have

$$I = \frac{V}{R_p} \quad \dots(i)$$

On applying Ohm's law to each resistor, R_1 and R_2 , we have

$$I_1 = \frac{V}{R_1} \text{ and } I_2 = \frac{V}{R_2}$$

$$\therefore I = I_1 + I_2 = \frac{V}{R_1} + \frac{V}{R_2} = V \left(\frac{1}{R_1} + \frac{1}{R_2} \right) \quad \dots(ii)$$

Now, from equations (i) and (ii), we get:

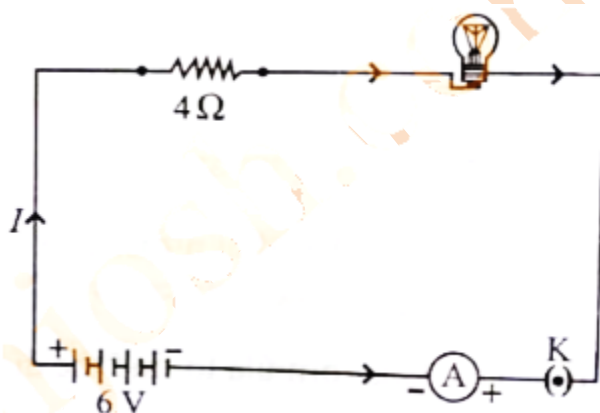
$$\frac{V}{R_p} = V \left(\frac{1}{R_1} + \frac{1}{R_2} \right)$$

$$\Rightarrow \frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

Thus, we conclude that the reciprocal of the equivalent resistance of a group of resistances joined in parallel is equal to the sum of the reciprocals of the individual resistances

OR

16. An electric lamp of resistance 20Ω and a conductor of resistance 4Ω are connected to a 6 V battery as shown in the circuit.



Calculate:

- (a) the total resistance of the circuit,
- (b) the current through the circuit,
- (c) the potential difference across the (i) electric lamp and (ii) conductor, and
- (d) power of the lamp.

Answer.

Given,

Resistance of electric lamp, $R_1 = 20\ \Omega$

Resistance of conductor, $R_2 = 4\ \Omega$

Voltage of the battery, $V = 6\text{V}$

(a) Here, the conductor and electric lamp are connected in series.

$$\begin{aligned}\therefore \text{Total resistance in the circuit, } R_s &= R_1 + R_2 \\ &= 20\ \Omega + 4\ \Omega \\ &= 24\ \Omega.\end{aligned}$$

(b) Using Ohm's law for the circuit,

$$V = IR$$

$$\Rightarrow I = \frac{V}{R} \approx \frac{V}{R_s}$$

$$\Rightarrow I = \frac{6}{24} = 0.25\text{A}$$

Thus, the current flowing through the circuit is 0.25 A .

(c) Potential difference across the electric lamp is given as,

$$V_1 = IR_1 = 0.25\text{ A} \times 20\ \Omega = 5\text{ V}$$

Potential difference across the conductor is given as,

$$V_2 = IR_2 = 0.25\text{ A} \times 4\ \Omega = 1\text{ V}$$

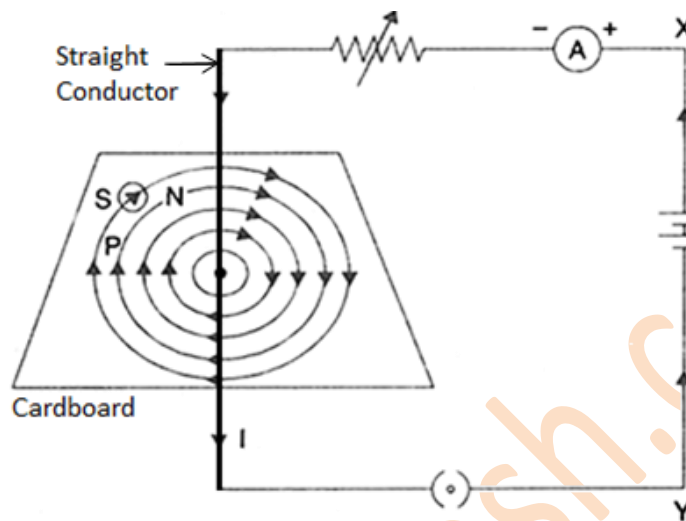
(d) Power of the lamp, $P = V \times I = 5\text{ V} \times 0.25\text{A} = 1.25\text{ W}$

17. (a) Draw magnetic field lines produced around a current carrying straight conductor passing through a cardboard. Name, state and apply the rule to mark the direction of these field lines.

(b) 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 wire carrying constant current? Justify your answer.

Answer.

(a) Following figure shows the pattern of magnetic field lines produced around a current carrying straight conductor passing through a cardboard.



Direction of the magnetic field lines here can be determined using 'Right- Hand Thumb Rule'.

Right- Hand Thumb Rule: If the current carrying conductor is held in the right hand such that the thumb points in the direction of the current, then the direction in which our fingers curl gives the direction of the magnetic field.

As the current flows downwards in the given conductor, our thumb must point in the downward direction as well when the conductor is held in the right hand. Now the fingers curl in clock-wise direction, therefore the direction of magnetic field arising around the conductor is also clock-wise.

(b) Strength of magnetic field is inversely proportional to separation between two consecutive magnetic lines of forces. As the density of magnetic lines of forces decreases when we move away from the straight conductor, the separation between two magnetic lines of forces increases when we move away from the straight conductor. Therefore, magnetic strength decreases when we move away from the straight conductor.

18. An object is placed at a distance of 60 cm from a concave lens of focal length 30 cm.

(i) Use lens formula to find the distance of the image from the lens.

(ii) List four characteristics of the image (nature, position, erect/inverted) formed by the lens in this case.

(iii) Draw ray diagram to justify your answer of part (ii).

Answer.

(i) Given, object distance, $u = -60$ cm

Focal length, $f = -30$ cm

Image distance = v

Using Lens formula, we have:

$$\begin{aligned}\frac{1}{f} &= \frac{1}{v} - \frac{1}{u} \\ \Rightarrow \frac{1}{v} &= \frac{1}{f} + \frac{1}{u} \\ \Rightarrow \frac{1}{v} &= \frac{u+f}{uf} \\ \Rightarrow v &= \frac{uf}{u+f} \\ \Rightarrow v &= \frac{(-60)(-30)}{-60-30} = -\frac{1800}{90} = -20\text{cm}\end{aligned}$$

Thus, image distance = -20cm

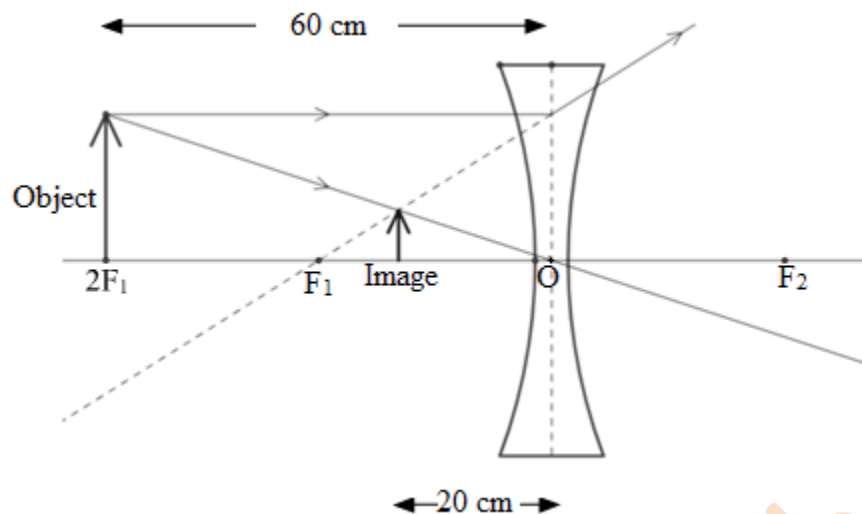
(ii) Characteristics of the image:

As the image distance is negative, it shows that image is formed on the same side of the object.

It is located 20 cm away from the centre of concave lens.

The image is virtual and erect.

(iii) Ray diagram for the formation of image by concave lens is given below:



19. Define pollination. Explain the different types of pollination. List two agents of pollination? How does suitable pollination lead to fertilization?

Answer.

The transfer of pollen from the stamen to the stigma is known as pollination.

Types of Pollination

Pollination is of two types:

- Self- Pollination
- Cross-Pollination

Self-Pollination: When the pollen is transferred from the anthers of a flower to the stigma of the same flower, it is called as self- pollination.

Cross-Pollination: In this type of pollination, the pollen is transferred from the anthers of one flower to the stigma of another flower. Cross-pollination is always dependant on another agent to cause the transfer of pollen.

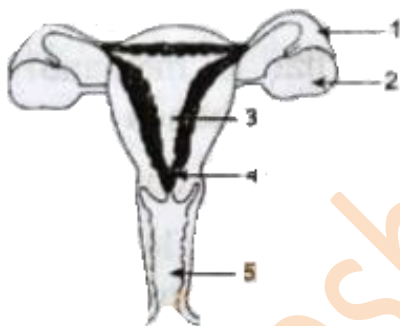
Agents of pollination include wind, water, animals etc.

Fertilization: After pollination, when pollen has landed on the stigma of a suitable flower of the same species, can a chain of events happen that ends in the making of seeds. A tube grows out of pollen grain and travels through the style to reach the female germ cells present in ovule in the ovary. Out of two male gametes present in pollen tube one fuses with egg to form zygote. This

fusion is called fertilization. After fertilization, the zygote divides several times to form an embryo within the ovule. The ovule develops a tough coat and gradually turns into a seed. The ovary grows rapidly and ripens to form a fruit.

OR

19. (a) Identify the given diagram. Name the parts 1 to 5.



(b) What is contraception? List three advantages of adopting contraceptive measures.

Answer.

Given diagram is of Human female reproductive system.

Names of parts 1 to 5:

1 – Fallopian tube (Oviduct)

2 – Ovary

3 – Uterus

4 – Cervix

5 – Vagina

(b) Contraception: It is an artificial method or other techniques used to prevent pregnancy as a consequence of sexual intercourse.

Adopting the contraceptive measures helps in

- i) Avoiding frequent and unwanted pregnancies.
- ii) Controlling the size of family and improving the standard of living.

- iii) Preventing sexually transmitted diseases.
- iv) Maintaining adequate gap between two consecutive children.

20. Write the chemical formula and name of the compound which is the active ingredient of all alcoholic drinks. List its two uses. Write chemical equation and name of the product formed when this compound reacts with

- (i) sodium metal
- (ii) hot concentrated sulphuric acid

Answer.

Chemical formula - $\text{CH}_3\text{CH}_2\text{OH}$

Name of compound - Ethanol

Uses of ethanol are given below:

- It is used as an additive in petrol.
- It is used as an antifreeze for automobile radiators.
- Being a good solvent, it is used in medicines such as tincture of iodine, cough syrups and tonics.
- It is used as a preservative for biological specimen

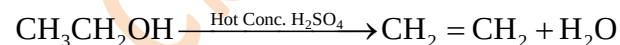
(i) Reaction of ethanol with sodium metal:

Ethanol readily reacts with sodium to form sodium ethoxide and hydrogen gas.



(ii) Reaction of ethanol with hot concentrated sulphuric acid:

Ethanol on reacting with hot concentrated sulphuric acid produces ethene and water.



OR

20. What is methane? Draw its electron dot structure. Name the type of bonds formed in this compound. Why are such compounds?

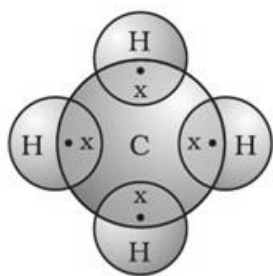
- (i) Poor conductors of electricity and

(ii) Have low melting and boiling points? What happens when this compound burns in oxygen?

Answer.

Methane is the simplest of the saturated hydrocarbons with a chemical formula CH_4 . It is a colourless, odourless flammable gas which is the main constituent of natural gas.

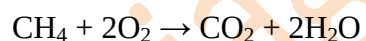
Electron dot structure of methane:



Bonds formed in Methane are single covalent bonds.

(i) In covalent compounds, constituent atoms are held together by the weak Van Der Waals forces of attraction. Thus less energy is required to break these binding forces. Therefore covalent compounds have low melting and boiling points.

When methane is burnt in air or oxygen, it produces large amount of heat along with carbon dioxide and water vapour formation.



21. Write the main difference between an acid and a base. With the help of suitable examples explain the term neutralization and the formation of -

- (i) acidic,
- (ii) basic and
- (iii) neutral salts.

Answer.

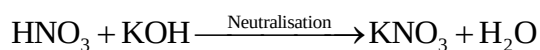
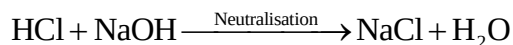
Main points of difference between acid and base:

Acid	Base
It dissociates H^+ ions in aqueous solution.	It dissociates OH^- ions in aqueous solution.

It turns blue litmus red.	It turns red litmus blue.
It is sour in taste.	It is bitter in taste.

Neutralization: It is a chemical reaction in which acid and base combine to form salt and water.

Examples of neutralisation are:



Formation of

(i) acidic salt

When a strong acid reacts with a weak base, acidic salt is formed.



(ii) basic salt

When a weak acid reacts with a strong base, basic salt is formed.



(iii) neutral salt

When a strong acid reacts with a strong base or a weak acid reacts with a weak base, neutral salt is formed.



SECTION - E

22. In the experimental set up to show that "CO₂ is given out during respiration", name the substance taken in the small test tube kept in the conical flask. State its function and the consequence of its use.

Answer.

The substance taken in the small test tube: Potassium hydroxide (KOH)

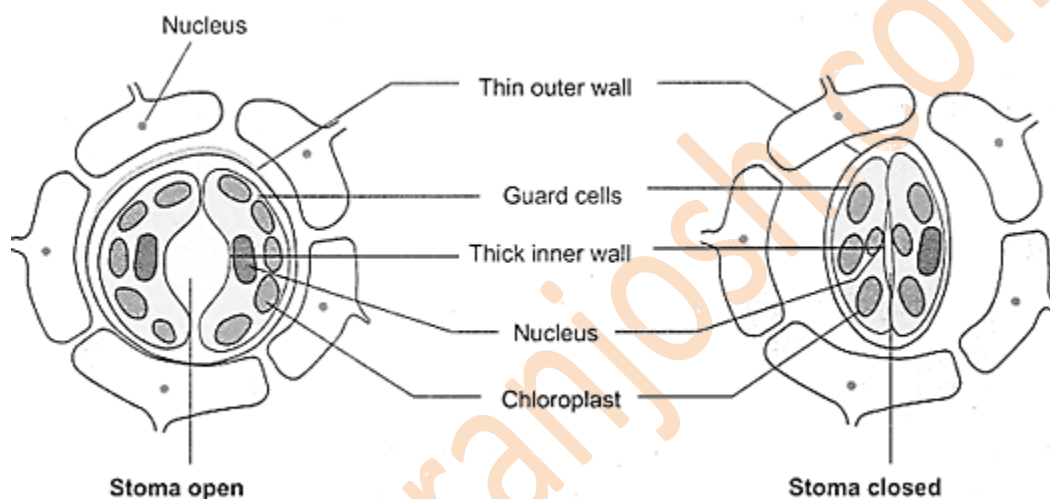
Potassium hydroxide absorbs the CO₂ released by the germinating seeds.

Due to the loss of CO_2 gas (which is absorbed by KOH) in the flask, a partial vacuum is created. This vacuum causes the water in the delivery tube to rise up.

23. A student is observing the temporary mount of a leaf peel under a microscope. Draw labelled diagram of the structure of stomata seen under the microscope.

Answer.

Labelled diagram of the structure of stomata as seen under the microscope is given below:

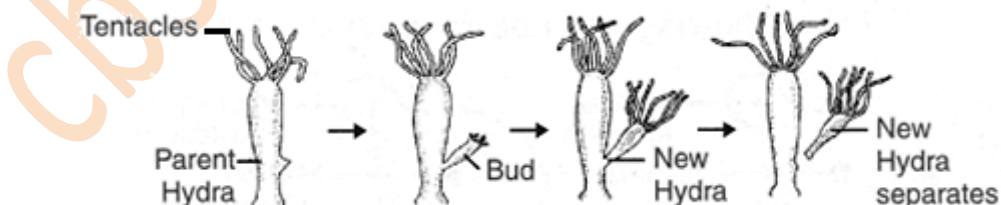


OR

23. Draw a labelled diagram in proper sequence to show budding in hydra.

Answer.

Labelled diagram to show budding in hydra is given below:



24. List four precautions which a student should observe while determining the focal length of the given convex lens by obtaining image of a distant object on a screen.

Answer.

Following precautions should be taken while determining the focal length of the given convex lens:

- (i) The lens holder along with lens should be kept vertical throughout the experiment.
- (ii) The base of the stands of the convex lens and screen should be parallel to the measuring scale.
- (iii) Lens and screen should be kept at same level.
- (iv) Distance should be measured only when well defined sharp image of the distance object is obtained.

25. While studying the dependence of potential difference (V) across a resistor on the current (I) passing through it, in order to determine the resistance of the resistor, a student took 5 readings for different values of current and plotted a graph between V and I. He got a straight line graph passing through the origin. What does the straight line signify? Write the method of determining resistance of the resistor using this graph.

Answer.

The graph shows that the current through conductor increases linearly as the potential difference across it increases.

The slope of the line gives the value of resistance (R)

$$\text{Slope} = \frac{1}{R} = \frac{I_o (\text{Value of current at that point})}{V_o (\text{Value of potential difference at that point})}$$

$$\Rightarrow R = \frac{V_o}{I_o}$$

OR

25. What would you suggest to a student if while performing an experiment he finds that the pointer/needle of the ammeter and voltmeter do not coincide with the zero marks on the scales when circuit is open? No extra ammeter/voltmeter is available in the laboratory.

Answer.

In this case students must subtract the initial reading of the open circuit from the reading obtained after performing the experiment.

$\therefore$ Actual reading = Final reading (in closed circuit) – Initial reading (in open circuit)

26. In three test tubes A, B, and C, three different liquids namely, distilled water, underground water and distilled water in which a pinch of calcium sulphate is dissolved, respectively are taken. Equal amount of soap solution is added to each test tube and the contents are shaken. In which test tube will the length of the foam (lather) be longest ? Justify your answer.

Answer.

Test tube A contains distilled water which is free from ions like Mg^{2+} , Ca^{2+} , etc.

Test tube B contains underground water which contains ions like Mg^{2+} , Ca^{2+} , etc. which make it hard and form insoluble salts of fatty acids (scum).

Test tube C contains distilled water in which $CaSO_4$ has been dissolved. Therefore, this test tube also contains Ca^{2+} ions which produce scum in soap solution.

Thus comparing all three test tubes, we conclude that the length of foam will be the longest in test tube A.

27. Blue litmus solution is added to two test tubes A and B containing dilute HCl and NaOH solution respectively. In which test tube a colour change will be observed? State the colour change and give its reason.

Answer.

On adding blue litmus solution to both the test tubes, the colour of the test tube A containing dilute HCl will change from blue to red. This is because HCl is an acid and acids turn blue litmus to red.

OR

27. What is observed when 2 mL of dilute hydrochloric acid is added to 1g of sodium carbonate taken in a clean and dry test tube? Write chemical equation for the reaction involved.

Answer.

On adding dilute hydrochloric acid to sodium carbonate, a brisk effervescence is observed due to the evolution of carbon dioxide gas.

