

**CLASS X (2019-20)**  
**SCIENCE (CODE 086)**  
**SAMPLE PAPER-18**

**Time : 3 Hours**

**Maximum Marks : 80**

**General Instructions :**

- (i) The question paper comprises of three sections-A, B and C. Attempt all the sections.
- (ii) All questions are compulsory.
- (iii) Internal choice is given in each sections.
- (iv) All questions in Section A are one-mark questions comprising MCQ, VSA type and assertion-reason type questions. They are to be answered in one word or in one sentence.
- (v) All questions in Section B are three-mark, short-answer type questions. These are to be answered in about 50-60 words each.
- (vi) All questions in Section C are five-mark, long-answer type questions. These are to be answered in about 80-90 words each.
- (vii) This question paper consists of a total of 30 questions.

## Section A

1. Identify the oxidising agent and the substance oxidised in the following reaction. [1]



**Ans :**

Oxidising agent – CuO  
Substance oxidised – H<sub>2</sub>

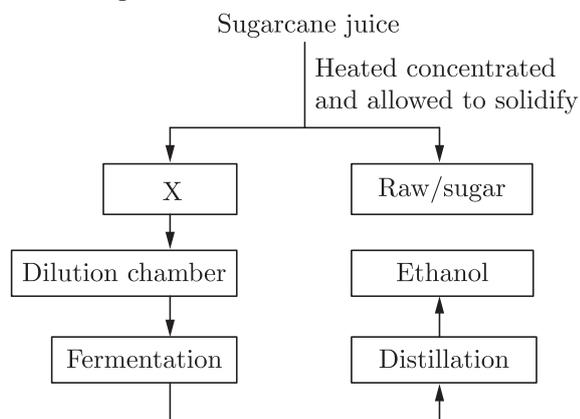
2. Why is sodium kept immersed in kerosene oil? [1]

**Ans :**

Sodium is a highly reactive element. If it is kept in open it can explosively react with oxygen and catch fire. Hence, to prevent accidental damage sodium is kept immersed in kerosene oil.

3. Answer question numbers 3.1-3.4 on the basis of your understanding of the following paragraph and the related studied concepts.

Ethanol or ethyl alcohol is an important organic compound. Its formula is written as C<sub>2</sub>H<sub>5</sub>OH or CH<sub>3</sub>CH<sub>2</sub>OH. It is used in industries, hospitals and homes. Ethanol is manufactured by the fermentation of raw materials such as molasses, sugar and starch. A flow chart for the production of ethanol from molasses is given below.



- 3.1 Read the flow chart given above, and identify X. [1]

**Ans :** The substance X is molasses.

- 3.2 Which of the following statements correctly defines fermentation? [1]

- (a) breakdown of sugar into an alcohol or acid in the absence of oxygen.
- (b) breakdown of sugar into carbon dioxide and water.
- (c) breakdown of glucose into lactic acid in the presence of oxygen.
- (d) breakdown of glucose into lactic acid and oxygen.

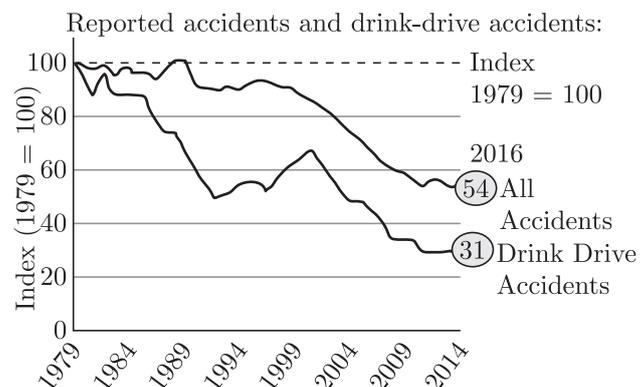
**Ans :** (a) breakdown of sugar into an alcohol or acid in the absence of oxygen.

- 3.3 Ethanol can be produced from ethene (H<sub>2</sub>C = CH<sub>2</sub>), then why is it manufactured from molasses or starch? [1]

- (a) Ethene is not easily available.
- (b) To save non-renewable petroleum products.
- (c) The quality of ethanol produced from molasses is better.
- (d) Ethene is an unsaturated hydrocarbon.

**Ans :** (b) To save non-renewable petroleum products.

- 3.4 Based on the data represented in the graph below, what is the reason for the maximum number of deaths while driving after consuming alcohol? [1]



**Ans :** Alcohol lowers down the activity of the nervous system and the brain due to which judgment of the person gets impaired and his reaction becomes slow. Hence a drunken person driving

any vehicle cannot judge a situation properly and act quickly in case of emergency which can lead to road accidents.

4. Question numbers 4.1-4.4 are based on two illustrations and the related studied concepts. Analyse them and answer the questions that follow.

City Level Prevalence of Child Health Outcomes

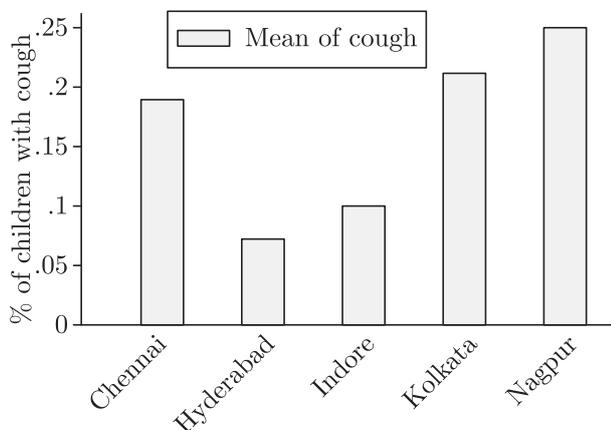


Table: Effect of air pollution in early life of a man

Stage : Age :	New born 0-2 mos	Infant/Toddler 2 mons-2 yrs	Young child 2-6 yrs	School-Age Child 6-12 yrs	Adolescent 12-18 yrs
Lung development :			Alveolar development		
	High respiratory rate				
			Increasing lung volume		
Air pollution risks :	Respiratory death				
			Chronic cough and bronchitis		
			Reduced lung function		
		Respiratory symptoms and illnesses	Wheezing and asthma attacks		
			Respiratory-related school absences		

Air pollution exposure has also been more recently linked to respiratory symptoms and illnesses in early life including cough, bronchitis, wheeze and ear infections

4.1 Which city has the maximum number of children with ill health? [1]

Ans : Nagpur

4.2 Why do fewer number of children suffer with cough in Hyderabad city? [1]

Ans : Hyderabad must be having a cleaner environment so the children would be healthier there.

4.3 List the main pollutants responsible for causing severe health problems in children. [1]

Ans : SO<sub>2</sub>, NO<sub>2</sub> and PM10 are the main pollutants responsible for causing severe health problems in children.

4.4 Write any two respiratory illnesses in adolescent that are caused by air pollution. [1]

Ans : Asthma, wheezing, chronic cough

5. Consider the following statements with regard to periodic classification of elements. [1]

- A. In Modern Periodic Table, the isotopes of an element having different mass numbers are put at one place in the same group.
- B. Elements in Mendeleev's Periodic Table are arranged on the basis of increasing atomic numbers.
- C. Elements in the Modern Periodic Table are arranged on the basis of increasing mass numbers.
- D. In the Modern Periodic Table, nickel of a lower mass number is kept after cobalt of a higher mass number.

The correct statements are

- (a) A and B
- (b) B and C
- (c) C and D
- (d) A and D

Ans : (d) A and D

or

Which of the following element if not the member of second period? [1]

- (a) Li
- (b) Ca
- (c) F
- (d) C

Ans : (b) Ca

6. In human beings, 23 pair of chromosomes are present in each cell. The number of chromosomes in each sex cell of a human being (male or female) is most likely to be [1]

- (a) 23
- (b) 22
- (c) 21
- (d) 44

Ans : (a) 23

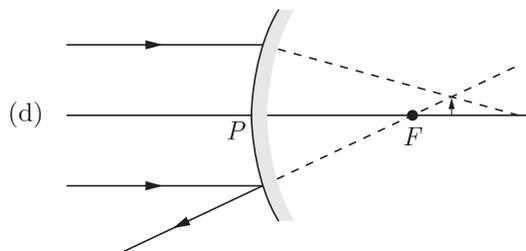
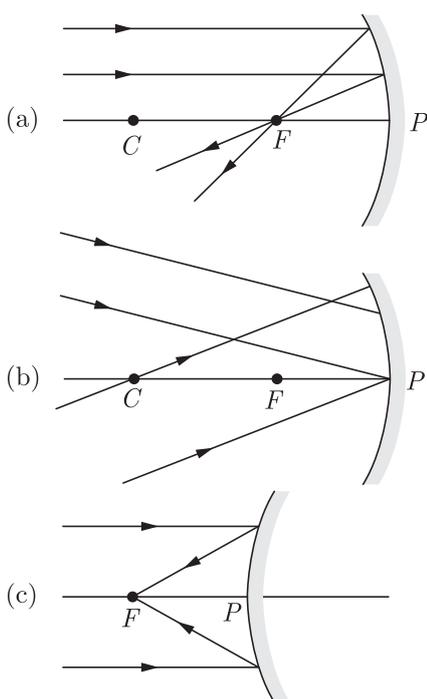
or

Two pea plants one with round green seeds (RRyy) and another with wrinkled yellow (rrYY) seeds produce F<sub>1</sub> progeny that have round, yellow (RrYy) seeds. When F<sub>1</sub> plants are selfed, the F<sub>2</sub> progeny will have new combination of characters. Choose the new combination from the following

- i. Round, yellow
- ii. Round, green
- iii. Wrinkled, yellow
- iv. Wrinkled, green
- (a) (i) and (ii)
- (b) (i) and (iv)
- (c) (ii) and (iii)
- (d) (i) and (iii)en.

Ans : (b) (i) and (iv)

7. Which of the following ray diagrams depicts correctly the path of a parallel beam of light after reflection from a spherical mirror? 1



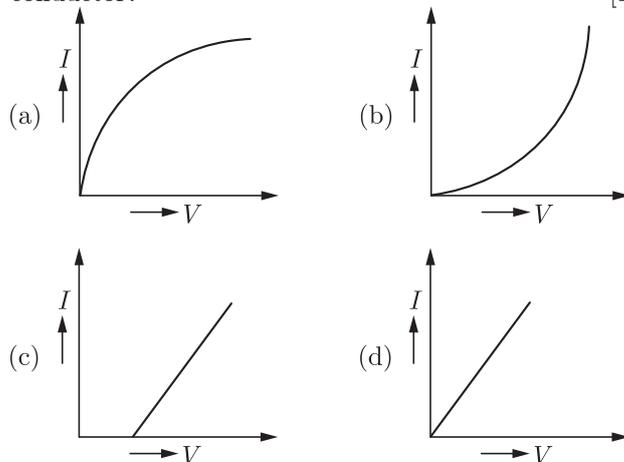
Ans : (a)

8. When lead nitrate reacts with potassium iodide, a yellow precipitate is formed. This yellow compound formed is [1]

- (a)  $Pb(NO_3)_2$
- (b)  $KNO_3$
- (c)  $PbI_2$
- (d)  $PbO$

Ans : (c)  $PbI_2$

9. Which one of the following V-I graphs is of an ohmic conductor? [1]



Ans : (d)

10. Read the following statements regarding the construction of check dams across the flooded gullies. A. Check dams hold water for irrigation. B. Check dams recharge groundwater. C. Check dams hold water and increase soil erosion. D. Check dams hold water permanently. The correct statement(s) is/are [1]

- (a) only A
- (b) only B
- (c) only B and C
- (d) A, B and C

Ans : (b) only B

11. When ethanoic acid is added to sodium hydrogen-carbonate, a gas evolves. Which of the following statements is correct about the evolved gas? [1]

- A. It has a pungent smell.
- B. It turns lime water milky.
- C. It extinguishes a burning splinter.
- D. It dissolves in a solution of sodium hydroxide.
- (a) A, B and C
- (b) B, C and D
- (c) B and C only
- (d) B and D only

Ans : (b) B, C and D

12. Magnification produced by a rear view mirror fitted in vehicles [1]

- (a) is less than one.
- (b) is more than one.
- (c) is equal to one.

- (d) can be more than or less than one depending upon the position of the object.

**Ans :** (a) is less than one.

**or**

A plane mirror is moving towards you with a speed of 1 m/s. The speed with which your image is approaching you is [1]

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

**Ans :** (b) 1 m/s

**For question numbers 13 and 14, two statements are given—one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.**

- (a) Both A and R are true and R is correct explanation of the assertion.  
(b) Both A and R are true but R is not the correct explanation of the assertion.  
(c) A is true but R is false.  
(d) A is false but R is true.

- 13. Assertion :** Dentists use concave mirrors to observe the magnified images of the patient's teeth.

**Reason :** A concave mirror produces a real and magnified image of the object placed between its pole and focus. [1]

**Ans :** (c) A is true but R is false.

- 14. Assertion :** Wires used in heater elements should have high resistivity and a high melting point.

**Reason :** Heater wires are made of an alloy having resistivity higher than that of its constituent metals. [1]

**Ans :** (b) Both A and R are true but R is not the correct explanation of the assertion.

## Section B

- 15.** Write a balanced chemical equation with the symbols for the following reactions:

- (a) Solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.  
(b) Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water. [3]

**Ans :**

- (a)  $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \longrightarrow \text{BaSO}_4(\text{s})\downarrow + 2\text{NaCl}(\text{aq})$   
(b)  $\text{NaOH}(\text{aq}) + \text{HCl}(\text{aq}) \longrightarrow \text{NaCl}(\text{aq}) + \text{H}_2\text{O}(\text{l})$

- 16.** (a) What is a hydrated salt?  
(b) Give two examples of hydrated salt which are white and state their chemical formula. [3]

**Ans :**

- (a) A hydrated salt is a crystalline salt molecule that is loosely attached to a certain number of water molecules.  
(b) White hydrated salts—magnesium sulphate heptahydrate— $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  and sodium sulphate decahydrate— $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ .

- 17.** Write the main aim of classifying elements. Which basic property of the elements is used in the development of Modern Periodic Table? State the Modern Periodic Law. On which side of this periodic table may we find the metals, non-metals and the metalloids? [3]

**Ans :**

- Systematic study of the known elements is the main aim of classifying elements.
- Basic property of elements used in the development of Modern Periodic Table is atomic number.
- Modern Periodic Law: Properties of elements are a periodic function of their atomic number.
- In the periodic table, metals are on the left side, non-metals on the right side and the metalloids at the borderline between metals and non-metals.

**or**

An element X is placed in the thirteenth group and third period of the Modern Periodic Table. Answer the following questions stating the reason in each case.

- (a) Write the electronic configuration of X.  
(b) Write the formula of the compound formed when the element X reacts with another element Y of atomic number 17.  
(c) Will the oxide of the element X be acidic or basic? [3]

**Ans :**

- (a) (i) Electronic configuration of X = 2, 8, 3  
(ii) It has 3 valence electrons because it belongs to group 13.  
(iii) It has 3 occupied shells because it belongs to period 3.  
(b) (i) Electronic configuration of Y (17) is 2, 8, 7.  
(ii) Valency of Y = 8 — 7 = 1  
(iii) Since valency of X is 3 and that of Y is 1, the formula of the compound formed is  $\text{XY}_3$ .  
(c) The nature of the oxide of X will be basic/amphoteric.

- 18.** List four characteristics of plant hormones. Name any two plant hormones. [3]

**Ans :**

Characteristics of plant hormones:

- (a) They are produced in small amounts.  
(b) They act away from their sites of production and reach at the sites of action by simple diffusion.  
(c) They have specific action of their own.  
(d) The synthesis and action of plant hormones is greatly influenced by external stimuli.

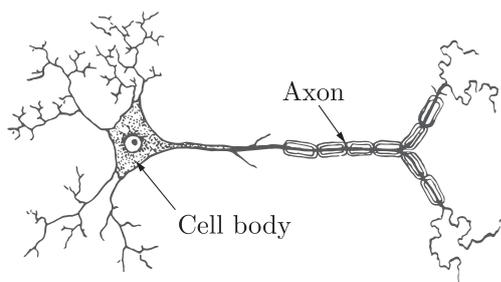
Plant hormones are:

- (a) Auxin  
(b) Gibberellins  
(c) Cytokinins  
(d) Abscisic acid (Any two)

- 19.** (a) Draw the structure of neuron and label cell body and axon.  
(b) Name the part of neuron  
(i) where information is acquired;  
(ii) through which information travels as an electrical impulse. [3]

Ans :

(a)



- (b) (i) End of dendritic tip  
(ii) Axon

20. Mendel, in one of his experiments with pea plants, crossed a variety of pea plant having round seeds with one having wrinkled seeds. Write Mendel's observations giving reasons of  $F_1$  and  $F_2$  progeny of this cross. State any two contrasting characters, other than roundness of pea plants, that Mendel used in his experiments. [3]

Ans :

Mendel's Observations:

- (a) In  $F_1$  progeny — all round plants  
Reason: Roundness is a dominant character.  
(b) In  $F_2$  progeny — 3/4th round plants and 1/4th wrinkled plants  
Reason: Wrinkledness is a recessive character, which gets expressed only when both the genes are recessive.

Other two contrasting characters used by Mendel in his experiments are:

- (a) Tall/short plants  
(b) White/Violet flowers

or

Explain how sexually reproducing organisms maintain a constant chromosome number through several generations. [3]

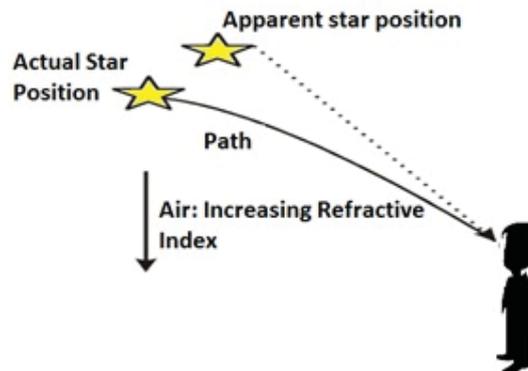
Ans :

Chromosomes are thread-like structures made up of DNA and found in the nucleus. The original number of chromosomes becomes half during gamete formation. Hence, when the gametes combine, the original number of chromosomes gets restored in the progeny.

21. What is atmospheric refraction of light? Draw a labelled diagram to explain the reason why the stars appear higher than their actual positions, when viewed near the horizon. [3]

Ans :

**Atmospheric refraction:** It is the change in the direction of propagation of light rays travelling through the atmosphere due to a gradual change in the optical density of the different layers of the atmospheric air.



or

A pencil when dipped in water in a glass tumbler appears to be bent at the interface of air and water. Will the pencil appear to be bent to the same extent, if instead of water we use liquids like kerosene or turpentine oil? Support your answer with reason. 3

Ans :

- No.
- Reason: The pencil will appear to be bent to different extents in case of different liquids filled in a glass tumbler because the speed of light at the interface separating two media depends on the relative refractive index of the medium. Since the refractive indices of kerosene and turpentine oil are more than that of water, the pencil when dipped in these liquids will appear to be bent more as compared to that in water.

22. Name and state the rule to determine the direction of the  
(a) force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular to it.  
(b) magnetic field produced around a straight current-carrying conductor.  
(c) current induced in a coil due to its rotation in a magnetic field. [3]

Ans :

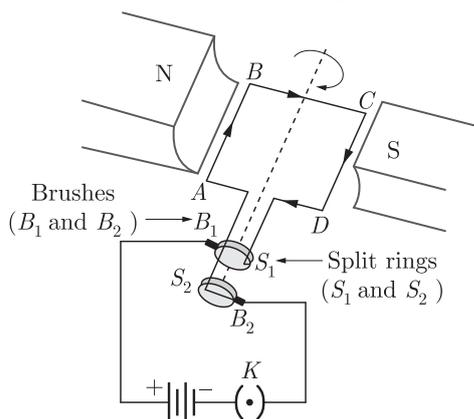
- Force experienced by a current-carrying straight conductor placed in a magnetic field, which is perpendicular to it, is determined by using Fleming's left hand rule which states that when the forefinger, middle finger and the thumb of the left hand are stretched so that they are perpendicular to each other with the forefinger pointing in the direction of the external magnetic field and the middle finger in the direction of the current then, the thumb will point in the direction of motion (or force) on the conductor.
- The direction of the magnetic field produced around a current-carrying straight conductor is determined using Maxwell's right-hand thumb rule which states that when holding a current-carrying straight conductor in the right hand such that the thumb points towards the direction of the current then, the fingers will wrap around the conductor in the direction of the field lines of the magnetic field. This rule is also called Maxwell's corkscrew rule.
- The direction of current induced in a coil due to its rotation in a magnetic field can be determined using Fleming's right hand rule which states that when the thumb, forefinger and middle finger of

the right hand is stretched such that they are mutually perpendicular to each other then, if the forefinger indicates the direction of magnetic field and the thumb shows the direction of motion of conductor then, the middle finger will show the direction of induced current.

23. Draw a labelled diagram of an electric motor and state the principle of its working. [3]

Ans :

An electric motor is a device which works on the magnetic effect of electric current and converts electrical energy into mechanical energy. It works on a basic principle that a current-carrying conductor when kept in a magnetic field experiences a force whose direction is given by Fleming's left hand rule.



24. Explain how the ocean thermal energy can be harnessed. Mention any two limitations in obtaining energy from the ocean. [3]

Ans :

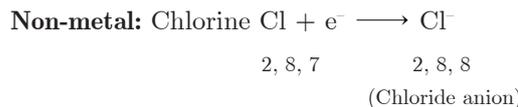
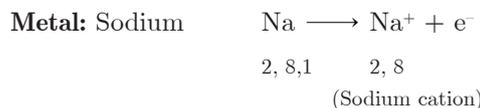
- The water at the surface of the sea or ocean is heated by the Sun, while the water in deeper sections is relatively cold. This difference in temperature is exploited to obtain energy in ocean thermal energy conversion plants. These plants can operate if the temperature difference between the water at the surface and water at depths up to 2 km is 20°C or more. The warm surface water is used to boil a volatile liquid like ammonia. The vapour of the liquid are then used to run the turbine of the generator. The cold water from the depth of the ocean is pumped up to condense vapour again to liquid.
- The limitations in obtaining energy from the ocean are:
  - Only a few sites are suitable for this purpose.
  - It does not possess enough energy to generate electricity on a large scale.
  - It is a time-consuming and costly process.

## Section C

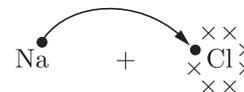
25. Name an ionic compound and write its formula. Explain the formation of this compound by drawing electronic structures of the metal and non-metal involved. List four properties of ionic compound. [5]

Ans :

Sodium chloride; NaCl



In the formation of  $\text{Na}^+\text{Cl}^-$ , there is a transfer of electron from sodium to chlorine which is represented as:



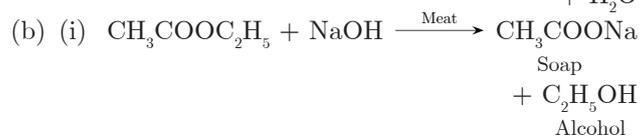
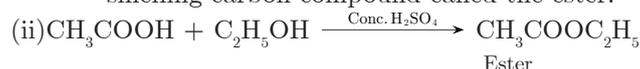
Sodium and chloride ions being oppositely charged attract each other and are held by strong electrostatic force of attraction.

Four properties of ionic compounds:

- Solid and hard because of strong electrostatic force between the ions.
  - High melting and boiling points because considerable amount of energy is required to overcome the intraionic attraction.
  - Insoluble in organic solvents but soluble in water.
  - Good conductor of electricity in molten state because the ions move towards oppositely charged electrodes.
26. (a) What is esterification? Give one chemical equation.  
 (b) What happens when an ester is treated with sodium hydroxide solution? State the name of this reaction. [5]  
 (c) Differentiate between the addition reaction and substitution reaction shown by hydrocarbons.

Ans :

- (a) (i) Esterification: It is the reaction between a carboxylic acid and an alcohol in the presence of concentrated sulphuric acid to give a sweet-smelling carbon compound called the ester.



- (ii) This reaction is called saponification.  
 (c) The reactions in which unsaturated carbon compounds (alkenes and alkynes) react with a molecule like  $\text{H}_2$ ,  $\text{Cl}_2$ ,  $\text{H}_2\text{O}$ , etc. to form another saturated compounds are called addition reactions, e.g.



The reactions in which an atom or group of atoms of a compound is replaced by another atom or group of atoms are called substitution reaction, e.g.



or

You are given balls and stick model of six carbon atoms and fourteen hydrogen atoms and sufficient number of sticks. In how many ways one can join the models of six carbon atoms and fourteen hydrogen atoms to form different molecules of  $\text{C}_6\text{H}_{14}$ . 5

Ans :

Different molecules of C<sub>6</sub>H<sub>14</sub>

- (i) CH<sub>3</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>2</sub> - CH<sub>3</sub>
- (ii) CH<sub>3</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>
- (iii) CH<sub>3</sub>-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>
- (iv) CH<sub>3</sub>-CH(CH<sub>3</sub>)-CH(CH<sub>3</sub>)-CH<sub>3</sub>
- (v) CH<sub>3</sub>-C(CH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>

27. Write in tabular form the functions of the following digestive glands in the human body. Also state the name and function of the substances secreted.

- (i) salivary glands, (ii) gastric glands, (iii) liver
- (iv) pancreas and (v) intestinal glands [5]

Ans :

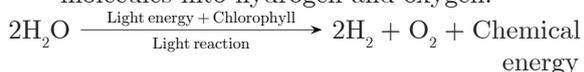
	Name of the gland	Name of secretions
1.	Salivary glands	Saliva which contains called salivary amylase enzyme
2.	Gastric glands	Gastric juice which contains HCl, mucus, pepsin
3.	Liver	Bile juice
4.	Pancreas	Pancreatic juice which contains trypsin, lipase and amylase
5.	Intestinal glands	Intestinal juice

or

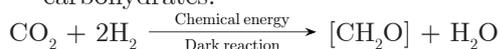
List the events that occur during the process of photosynthesis. 5

Ans :

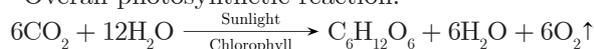
- 1. During photosynthesis, following events occur:
  - (a) Absorption of light energy by chlorophyll.
  - (b) Conversion of absorbed light energy to chemical energy, i.e. ATP (Adenosine Triphosphate) and splitting of water molecules into hydrogen and oxygen.



- (c) Fixation or reduction of carbon dioxide to carbohydrates:



- 2. Overall photosynthetic reaction:



28. (a) What is DNA copying? State its importance in the reproduction of sexually reproducing organisms.
- (b) Distinguish between a gamete and zygote. Explain their roles in sexual reproduction. [5]

Ans :

- (a) (i) **DNA copying:** It is the process of copying

or duplication of genetic material (DNA) through faithful replication.

- (ii) **Importance of DNA in the reproduction of sexually reproducing organisms:** Because DNA copying makes possible the transmission of characters from parents to the next generation (offspring).

(b)

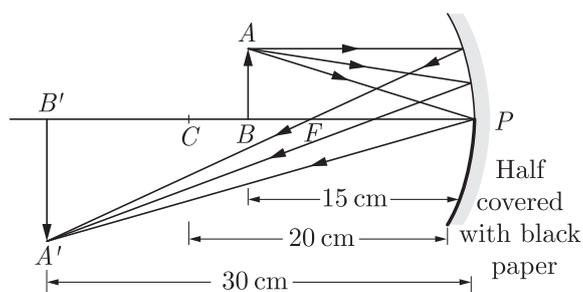
	Gamete	Zygote
(i)	It has one set of chromosomes.	It has two sets of chromosomes.
(ii)	It is of two types: male and female.	Only one type of zygote.
(iii)	It cannot divide further.	It divides further to produce offspring.
(iv)	Two gametes bring characters of parents in the DNA.	Zygote, the product of fertilisation receives DNA from both the parents.

Gametes are of two types-male and female, each having one set of chromosomes obtained from their parents. Both these gametes have the characters of their parents in their DNA. Fusion of the male and the female gametes results in the zygote formation. Zygote divides repeatedly to form an embryo which further grows into a new individual of the next generation.

29. (a) One half of a concave mirror of radius of curvature 20 cm is covered with a black paper. A candle flame is placed in front of the mirror at a distance of 15 cm. Will the mirror produce a complete image of the flame on the screen? Draw ray diagram to justify your answer.
- (b) An object is placed in front of a concave mirror of focal length 12 cm. The distance of the object from the mirror is 18 cm. Calculate the distance of the image from the mirror and its magnification. [5]

Ans :

- (a) (i) Yes. Even if the mirror is half covered, it will produce a complete image of the candle flame on the screen.
- (ii) **Ray diagram:** Here, three rays emerging from point A are shown to meet at A' after reflection from the uncovered half portion of the mirror.



- (b) Here,  $f = -12 \text{ cm}; u = -18 \text{ cm}; v = ?$
- Formula;  $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$
- $v = \frac{uf}{u+f}$

$$\therefore v = \frac{-18 \text{ cm} \times (-12 \text{ cm})}{-18 \text{ cm} - (-12 \text{ cm})}$$

$$= -36 \text{ cm}$$

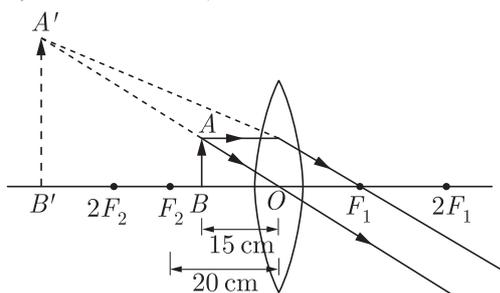
Magnification,  $m = -\frac{v}{u} = -\frac{-36 \text{ cm}}{-18 \text{ cm}} = -2$

**or**

- (a) What is meant by power of a lens? Define its SI unit.
- (b) You have two lenses of focal length +20 cm and -20 cm. Write the nature of each lens. Which of the two lenses can form a virtual and magnified image of an object placed 15 cm from the lens? Draw a ray diagram to justify your answer. [5]

**Ans :**

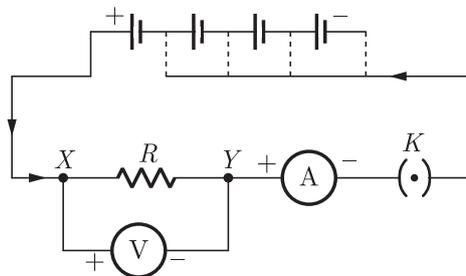
- (a) (i) Power of a lens: It is defined as the ability of a lens to converge or diverge light rays.
- (ii) S.I. unit is dioptre, which is defined as the power of a lens whose focal length is 1 metre.
- (b) (i)  $f = +20 \text{ cm}$  converging/convex lens
- (ii)  $f = -20 \text{ cm}$  diverging/concave lens
- (iii) Lens of  $f = +20 \text{ cm}$  can form virtual and magnified image of the object because, in this case, the object is at 15 cm, which is in between the optical centre and focus of the convex lens.
- (iv) Ray diagram:  $f = +20 \text{ cm}$ ;  $u = -15 \text{ cm}$



**30. State Ohm's Law. With the help of a labelled circuit diagram explain the method of its experimental verification. Draw V-I graph and describe the method of determining the resistance of a resistor using this graph. [5]**

**Ans :**

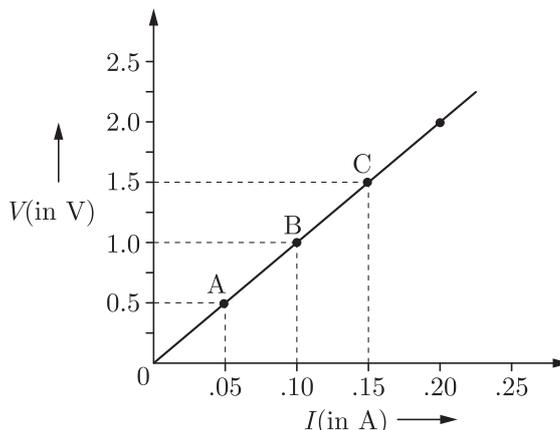
1. **Ohm's law:** The current I flowing through a metallic conductor is directly proportional to the potential difference V, across its ends, provided its temperature remains constant and its physical state also remains the same.
2. Experimental verification of the law:
  - (a) Set up the circuit, as shown, consisting of a resistance wire XY, an ammeter A, a voltmeter V, a key K and four cells of 1.5 V each.



- (b) First use one cell, as the source of current in the circuit and note the readings in the ammeter and voltmeter after plugging the key.
- (c) Repeat the above step, first by using two cells, then three cells and then four cells. Tabulate these readings in the observation table.

V (in volts)	0.5	1.0	1.5	2.0	2.5
I (in amperes)	0.05	0.1	0.15	0.2	0.25

- (d) Based on the observations, draw V-I graph. If this graph is a straight line passing through the origin as shown, it can be presumed that the graph depicts the Ohm's law or, in other words, the Ohm's law stands verified.
- 3. Graph shown was plotted between V and I. The value of the resistance of the resistor may be determined by finding the value of V and I corresponding to points A and C on the graph as follows:



At point A,  $\frac{V}{I} = \frac{0.5 \text{ V}}{0.05 \text{ A}} = 10 \Omega$

C,  $\frac{V}{I} = \frac{1.5 \text{ V}}{0.15 \text{ A}} = 10 \Omega$

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