

PRACTICE PAPER 1

Science Class 10th (Term I)

Instructions

1. This paper has 31 questions.
2. All questions are compulsory. Q. no. 1-28 carry 1 mark each and Q. nos. 29-31 carry 4 mark each.
3. Answer the questions as per given instructions.

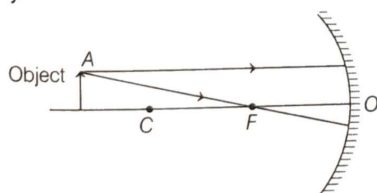
Time : 90 Minutes

Max. Marks : 40

Multiple Choice Questions

Direction (Q. Nos. 1-20) Each of the question has four options out of which only one is correct. Select the correct option as your answer.

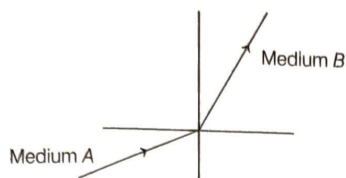
1. Which of the following reactions involves the combination of two elements ?
 - (a) $2\text{CO} + \text{O}_2 \longrightarrow 2\text{CO}_2$
 - (b) $\text{NH}_3 + \text{HCl} \longrightarrow \text{NH}_4\text{Cl}$
 - (c) $2\text{Mg} + \text{O}_2 \longrightarrow 2\text{MgO}$
 - (d) $\text{NO} + \text{O}_2 \longrightarrow 2\text{NO}_2$
2. When sodium carbonate is added to two tubes (A) containing dil. HCl and (B) containing dil. NaOH, then which of the following observations is correct ?
 - (a) A yellow coloured gas liberated in test tube A
 - (b) A yellow coloured gas liberated in test tube A and colourless gas in test tube B
 - (c) A colourless gas liberated in test tube A
 - (d) A colourless gas liberated in test tube B
3. The diagram shows the path of incident rays to a concave mirror.



Where would the reflected rays meet for the image formation to take place?

- (a) Behind the mirror
 - (b) Between F and O
 - (c) Between C and F
 - (d) Beyond C
4. Which of the following is acidic in nature ?
 - (a) Apple juice
 - (b) Lime water
 - (c) Soap solution
 - (d) Sodium bicarbonate
 5. NaOH is a strong base because it
 - (a) can be oxidised
 - (b) gives OH^- ions
 - (c) can turn blue litmus dark red
 - (d) All of the above
 6. What is the difference in water of crystallisation of washing soda and gypsum ?
 - (a) 2
 - (b) 4
 - (c) 8
 - (d) 1
 7. The element 'X' of atomic number 16 forms basic oxide. The number of electrons in X^{2-} ion will be
 - (a) 16
 - (b) 14
 - (c) 12
 - (d) 18
 8. Which of the following is amphoteric oxide ?
 - (a) Na_2O
 - (b) SO_2
 - (c) CaO
 - (d) Al_2O_3

19. A light ray enters from medium *A* to medium *B* as shown in figure. The refractive index of medium *B* relative to *A* will be



- (a) greater than unity (b) less than unity
(c) equal to unity (d) zero
20. The breakdown of pyruvate into carbon dioxide, energy and water takes place in
(a) mitochondria (b) cytoplasm
(c) endoplasmic reticulum (d) ribosomes

Assertion-Reasoning MCQs

Direction (Q. Nos. 21-28) For given questions two statements are given-one labeled Assertion (A) and the other labeled 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 the correct explanation of A.
(b) Both A and R are true, but R is not the correct explanation of A.
(c) A is true, but R is false.
(d) A is false, but R is true.
21. **Assertion** When a mixture of hydrogen and bromine is placed in sunlight, hydrogen bromide is formed.
Reason It is an example of combination reaction.
22. **Assertion** Magnesium ribbon burns in the presence of oxygen.
Reason Magnesium acts as an oxidising agent.
23. **Assertion** Dry hydrogen chloride gas does not change the colour of blue litmus paper to red.
Reason Dry hydrogen chloride gas is strongly basic.

24. **Assertion** If a ray of light is incident on a convex mirror along its principal axis, then the angle of incidence as well as the angle of reflection for a ray of light will be zero.

Reason A ray of light going towards the centre of curvature of convex mirror is reflected back along the same path.

25. **Assertion** Linear magnification of a mirror has no unit.

Reason The ratio of height of the image to the height of the object is the linear magnification produced by mirror.

26. **Assertion** The light of violet colour deviates the most and the light of red colour the least, while passing through a prism.

Reason For a prism material, refractive index is highest for red light and lowest for the violet light.

27. **Assertion** Raw materials needed for photosynthesis are carbon dioxide, water and minerals.

Reason Nutrients provide energy to an organism.

28. **Assertion** All the arteries carry oxygenated blood from the heart to various organs.

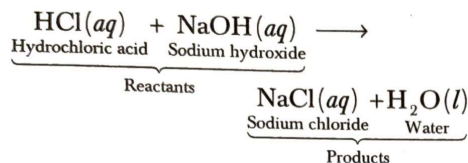
Reason Pulmonary vein carries oxygenated blood to the heart.

Case Based MCQs

29. Read the following and answer any four questions from (i) to (v).

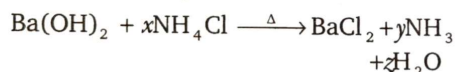
All the chemical changes are accompanied by chemical reactions and these are represented with the help of chemical equations. Chemical equation is a method of representing a chemical reaction with the help of symbols and formulae of the substances involved in it.

In a chemical equation, the reacting species (molecule, atom, ion) are known as reactants (the substances that undergo chemical change in the chemical reaction) and the new species formed as a result of the reaction are called products (the new substances formed during reaction).



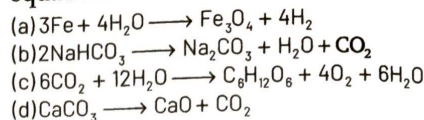
A chemical equation is a short hand method of representing a chemical reaction. A balanced chemical equation has equal number of atoms of different elements in the reactants and products side. Law of conservation of mass is followed in a balanced chemical equation.

- (i) What will be the value of 'x', 'y' and 'z' in the following reaction ?

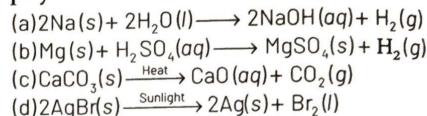


- (a) $x=2, y=3, z=1$ (b) $x=3, y=2, z=2$
 (c) $x=1, y=2, z=3$ (d) $x=2, y=2, z=2$
- (ii) Which of the following is incorrect about balanced chemical equation ?
- It tells us about the physical state of reactants and products.
 - It tells us about the number of atoms or molecules of the reactants and products formed.
 - It gives idea about feasibility of particular reaction.
 - It conveys the information about symbols and formulae of all the substances involved in a particular reaction.
- (iii) The balanced chemical equation is based on
- law of combining volumes
 - law of conservation of mass
 - law of constant proportions
 - law of conservation of charge

- (iv) Which of the following is unbalanced equation?

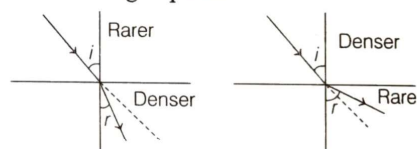


- (v) Which of the following is correct about physical state ?



30. Read the following and answer any four questions from (i) to (v).

When the rays of light travels from one transparent medium to another medium, the path of rays is deviated. This phenomenon is called the refraction of light. The bending of light depends on the optical density of medium through which the light passes.



The speed of light varies from medium to medium. A medium in which the speed of light is more is optically rarer medium whereas in which the speed of light is less is optically denser medium.

Whenever light goes from one medium to another, the frequency of light does not change. However, speed and wavelength change. It is concluded that the change in speed of light is the basic cause of refraction.

- (i) When light ray travels from glass to air, the ray bends
- towards the normal
 - away from normal
 - anywhere
 - do not bend

- (ii) When a ray passes from a medium *A* to *B*, no bending occurs if the ray of light hits the boundary of medium *B* at an angle of
 (a) 0°
 (b) 45°
 (c) 90°
 (d) 120°
- (iii) When light passes from a denser medium to a rarer medium, the frequency of light in the second medium
 (a) increases
 (b) decreases
 (c) remains same
 (d) None of the
- (iv) A light ray passes from glass to water. The speed of light
 (a) increases
 (b) decreases
 (c) remains same
 (d) first increases then decreases
- (v) The bottom of pool filled with water due to refraction, appears to be
 (a) shallower
 (b) deeper
 (c) at some depth
 (d) empty

31. Read the following and answer any four questions from (i) to (v).

All the living cells need nutrients, oxygen and other essential substances for their proper functioning.

Also, the waste and harmful substances need to be removed continuously for healthy functioning of cells.

Therefore, there is a dire need for a well-developed transport in living organisms.

Complex organisms have special fluids within their bodies to transport such materials and blood is the most commonly used one.

Lymph also helps in transport of certain substances of comparison between the two is given below is the table.

Comparison between Blood and Lymph		
Feature	Blood	Lymph
Cells	RBCs, WBCs and platelets	Lymphocytes (WBCs)
Proteins	Hormones and plasma proteins	Few proteins
Fats	Some transported as lipoproteins	More than that in blood (absorbed from lacteals in small intestine)
Glucose	80-120 mg per 100 cm ³	Less than that in blood
Amino acids	More than in other fluids	Less than that in blood
Oxygen	More than in other fluids	Less than that in blood
Carbon dioxide	Little	More

- (i) Which among the following is a similarity between Blood and Lymph ?
 (a) Blood clotting
 (b) Unidirectional flow
 (c) Protection against diseases
 (d) Presence of haemoglobin
- (ii) Amount of blood corpuscles observed in a dengue patient shows variation. Which among the following is observed in a person affected with dengue fever?
 (a) Increase in RBC count
 (b) Decrease in WBC count
 (c) Decrease in Platelet count
 (d) Decrease in RBC count

- (iii) **The clear liquid that carries other blood cells is**
- (a) lymph
 - (b) serum
 - (c) plasma
 - (d) blood vessel
- (iv) **WBCs are called soldiers of the body because**
- (a) they are capable of squeezing out of blood capillaries
 - (b) they are produced in bone marrow
 - (c) they have the ability to fight against decrease causing organisms
 - (d) they have granular cytoplasm
- (v) **The blood vessels whose reduction in number can cause clotting disorder thereby leading to excessive blood loss from body are**
- (a) erythrocytes
 - (b) thrombocytes
 - (c) leucocytes
 - (d) All of the above

PRACTICE PAPER 1

OMRSHEET

Instructions

- Use black or blue ball point pens and avoid gel pens and fountain pens for filling the sheets
- Darken the bubbles completely. Don't put a tick mark or a cross mark half-filled or over-filled bubbles will not be read by the software.



- Do not write anything on the OMR Sheet
- Multiple markings are invalid

1	a	b	c	d
2	a	b	c	d
3	a	b	c	d
4	a	b	c	d
5	a	b	c	d
6	a	b	c	d
7	a	b	c	d
8	a	b	c	d
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24	a	b	c	d
25	a	b	c	d
26	a	b	c	d
27	a	b	c	d
28	a	b	c	d
29 (i)	a	b	c	d
(ii)	a	b	c	d
(iii)	a	b	c	d
(iv)	a	b	c	d
(v)	a	b	c	d
30 (i)	a	b	c	d
(ii)	a	b	c	d
(iii)	a	b	c	d
(iv)	a	b	c	d
(v)	a	b	c	d
31 (i)	a	b	c	d
(ii)	a	b	c	d
(iii)	a	b	c	d
(iv)	a	b	c	d
(v)	a	b	c	d

Students should not write anything below this line

SIGNATURE OF EXAMINER WITH DATE

MARKS SCORED