

# Class 10 term 1 Sample paper 2024

General Instructions:

- i. This question paper contains 60 questions out of which 50 questions are to be attempted. All questions carry equal marks.
- ii. Question paper consists of **three** sections - Section **A, B**, and **C**.
- iii. **Section - A** consists **24** questions. Attempt any **20** questions from Q.No. **1** to **24**.
- iv. **Section - B** also consists **24** questions. Attempt any **20** questions from Q.No. **25** to **48**.
- v. **Section - C** consists of three case Studies containing 12 questions and 4 questions in each case. Attempt any **10** from **Q.No. 49** to **60**.
- vi. There is only correct option for Multiple Choice Question (MCQ). Marks will not be awarded for answering more than one option.
- vii. There is no negative marking.

## SECTION A

Section-A consists of 24 questions (Q. No. 1 to 24). Attempt any 20 questions from this section. The first attempted 20 questions would be evaluated.

### Question 1

**A Student Sodium Sulphate solution in a test tube and added Barium Chloride solution to it. He observed that an insoluble substance has formed. The colour and molecular formula of the insoluble substance is:**

- a. Grey,  $\text{Ba}_2\text{SO}_4$
- b. Yellow,  $\text{Ba}(\text{SO}_4)_2$
- c. White,  $\text{BaSO}_4$
- d. Pink,  $\text{BaSO}_4$

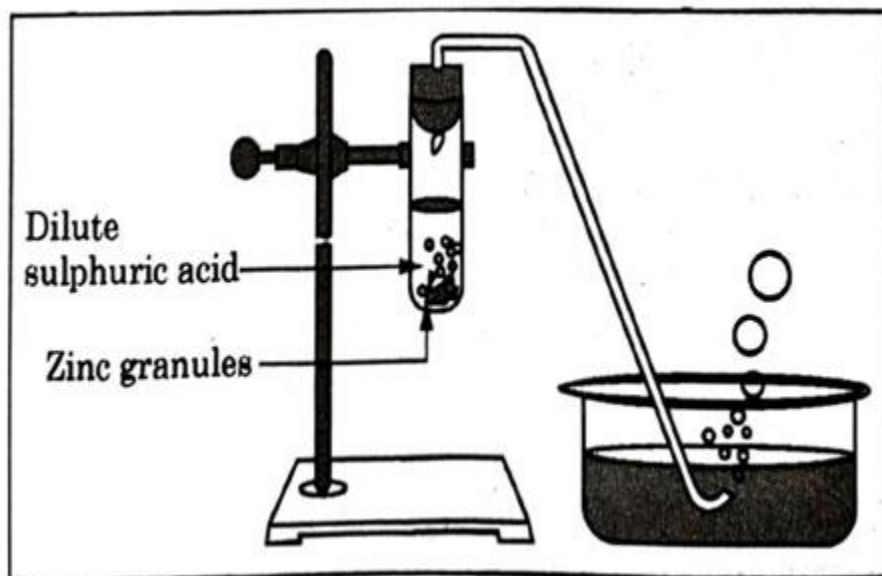
### Question 2

**Which of the following oxide(s) is/are Soluble in water to form alkalis?**

- i.  $\text{Na}_2\text{O}$
  - ii.  $\text{SO}_2$
  - iii.  $\text{K}_2\text{O}$
  - iv.  $\text{NO}_2$
- a. (i) and (iii)
  - b. (i) only
  - c. (ii) and (iv)
  - d. (iii) only

### Question 3

Study the diagram given below and identify the gas formed in the reaction.



- Carbon dioxide which extinguishes the burning candle.
- Oxygen due to which the candle burns more brightly.
- Sulphur dioxide which produces a suffocating smell.
- Hydrogen which while burning produces a popping sound.

### Question 4

Sodium reacts with water to form sodium hydroxide and hydrogen gas. The balanced equation which represents the above reaction is;

- $\text{Na(s)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + 2\text{H}_2\text{(g)}$
- $2\text{Na(s)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{H}_2\text{(g)}$
- $2\text{Na(s)} + 2\text{H}_2\text{O(l)} \rightarrow \text{NaOH(aq)} + 2\text{H}_2\text{(g)}$
- $2\text{Na(s)} + \text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + 2\text{H}_2\text{(g)}$

### Question 5

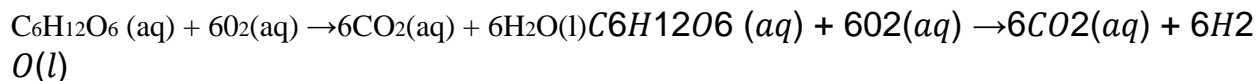
Which of the options in the given table are correct?

Option	Natural Source	
(i)	Orange	Oxalic acid
(ii)	Sour milk	Lactic acid
(iii)	Ant sting	Methanoic acid
(iv)	Tamarind	Acetic acid

- (i) and (ii)
- (i) and (iv)

- c. (ii) and (iii)
- d. (iii) and (iv)

**Question 6**

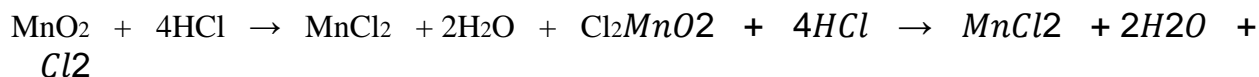


The above reaction is a/an

- a. displacement reaction
- b. endothermic reaction
- c. exothermic reaction
- d. neutralisation reaction

**Question 7**

Which of the following statements about the reaction given below are correct?



- i.  $HCl$  is oxidized to  $Cl_2$
  - ii.  $MnO_2$  is reduced to  $MnCl_2$
  - iii.  $MnCl_2$  acts as an oxidizing agent
  - iv.  $HCl$  acts as an oxidizing agent
- a. (i), (iii) and (iv)
  - b. (i), (ii) and (iii)
  - c. (i) and (ii) only
  - d. (iii) and (iv) only

**Question 8**

Select from the following the statement which is true for bases.

- a. Bases are bitter and turn blue litmus red.
- b. Bases have a pH less than 7
- c. Bases are sour and change from red litmus to blue.
- d. Bases turn pink when a drop of phenolphthalein is added to them.

**Question 9**

SL No.	Salt	Parent Acid	Parent B
(a)	Sodium Chloride	$HCl$	NaOH

(b)	Sodium Carbonate	$H_2CO_3$ <i>H2CO3</i>	NaOH
(c)	Sodium Sulphate	$H_2SO_4$ <i>H2SO4</i>	NaOH
(d)	Sodium Acetate	$CH_3COOH$ <i>CH3COOH</i>	NaOH

**Study the following table and choose the correct option:**

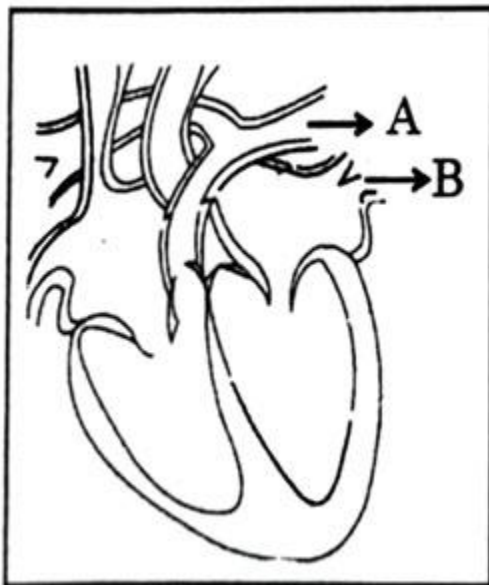
### Question 10

**It is important to balance the chemical equations to satisfy the law of conservation of mass. Which of the following statements of the law is incorrect?**

- The total mass of the elements present in the reactants is equal to the total mass of the elements present in the products.
- The number of atoms of each element remains the same, before and after a chemical reaction.
- The chemical composition of the reactants is the same before and after the reaction
- Mass can neither be created nor can it be destroyed in a chemical Reaction.

### Question 11

**Consider the following statements in connection with the functions of the blood vessels marked A and B in the diagram of a human heart as shown.**



- Blood vessel A – It carries carbon dioxide rich blood to the lungs.
- Blood vessel B – It carries oxygen rich blood from the lung.
- Blood vessel B – Left atrium relaxes as it receives blood from this blood vessel

- iv. Blood vessel A – Right atrium has thick muscular wall as it has to pump blood to this blood vessel.
  - a. (i) and (ii) only
  - b. (ii) and (iii) only
  - c. (ii),(iii) and (iv)
  - d. (i),(ii) and (iii)

**Question 12**

**In Living organisms During respiration which of the following Products are not formed if oxygen is not available?**

- a. Carbon dioxide + Water
- b. Carbon dioxide + Alcohol
- c. Lactic acid + Alcohol
- d. Carbon dioxide + Lactic Acid

**Question 13**

**The Correct Statements with reference to single called organisms are**

- i. Complex substances are not broken down in to simpler substances.
- ii. Simple diffusion is sufficient to meet the requirement of exchange of gases.
- iii. Specialized tissues perform different functions in the organism.
- iv. Entire surface of the organism is in contact with the environment for taking in food.
  - a. (i) and (iii)
  - b. (ii) and (iii)
  - c. (ii) and (iv)
  - d. (i) and (iv)

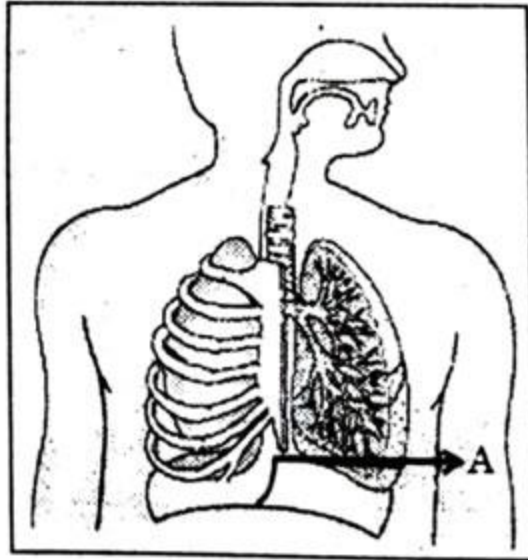
**Question 14**

**Which one among the following is not removed as a waste product from the body of a plant?**

- a. Resins and Gums
- b. Urea
- c. Dry Leaves
- d. Excess Water

**Question 15**

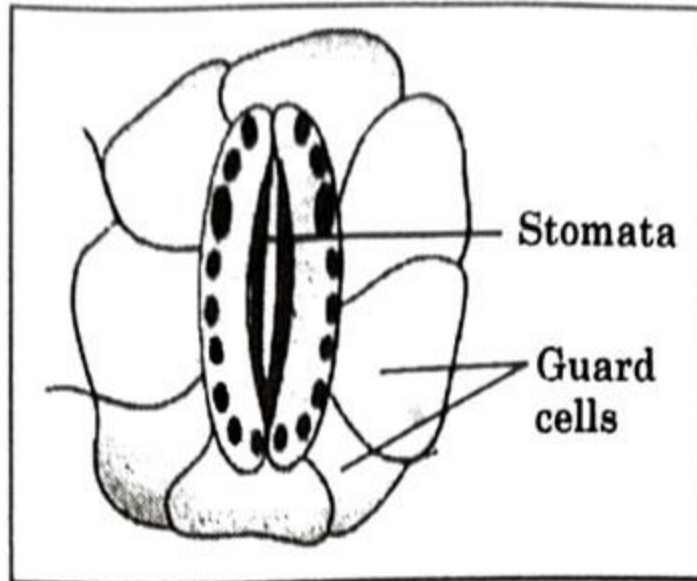
**Which one of the following statements are correct in reference to the role of A (Shown in the given diagram) during a breathing cycle in human beings?**



- i. It helps to decrease the residual volume of air in lungs.
  - ii. It flattens as we inhale.
  - iii. It gets raised as we inhale.
  - iv. It helps the chest cavity to become larger.
- a. (ii) and (iv)
  - b. (iii) and (iv)
  - c. (i) and (ii)
  - d. (i), (ii) and (iv)

**Question 16**

**Which one of the following conditions is true for the state of stomata of a green leaf shown in the given diagram?**



- a. Large amount of water flows in to the ground cells.
- b. Gaseous exchange is occurring in large amount.
- c. Large amount of water flows out from the guard cells.
- d. Large amount of sugar collects in the guard cell

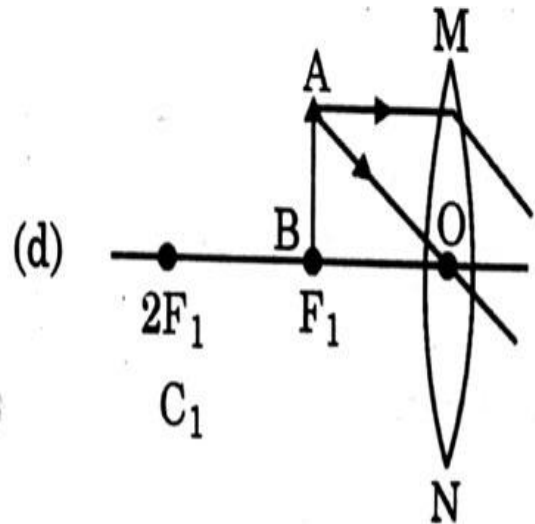
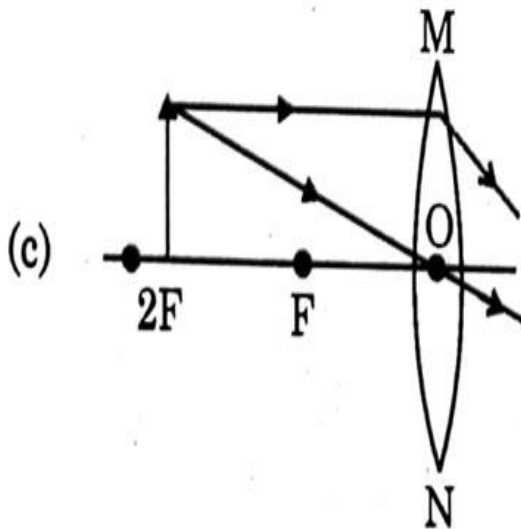
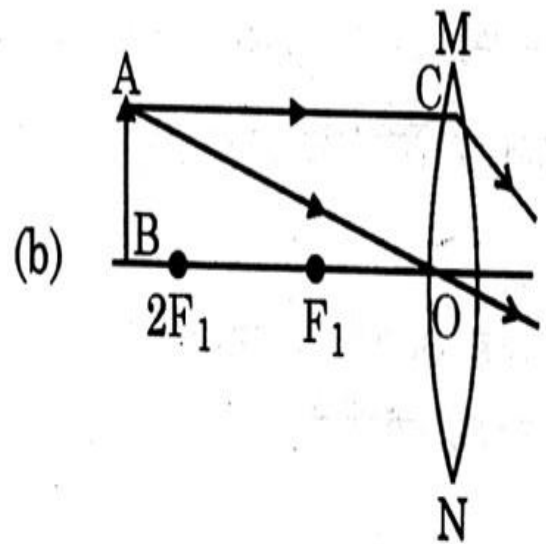
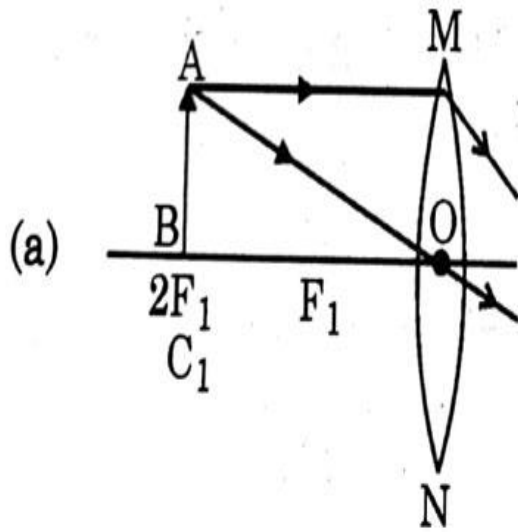
**Question 17**

**In which of the following is a concave mirror used?**

- a. A solar cooker
- b. A rear view mirror in vehicles
- c. A safety mirror in shopping malls
- d. In Viewing full size image of distant tall buildings.

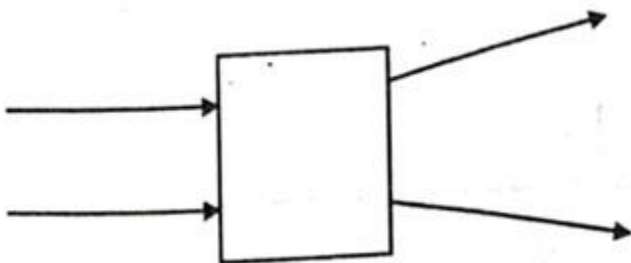
**Question 18**

**A student wants to obtain magnified image of an object AB as on a Screen. Which one of the following arrangements shows the correct position of AB for him/her to be successful?**



**Question 19**

The following diagram shows the use of an optical device to perform an experiment of light. As per the arrangement shown, the optical device is likely to be a;



- a. Concave mirror



- b. Concave lens
- c. Convex mirror
- d. Convex lens

**Question 20**

**A ray of light starting from air passes through medium A of refractive index 1.50, enters medium B of refractive index 1.33 and finally enters medium C of refractive index 2.42. If this ray emerges out in air from C, then for which of the following pairs of media the bending of light least?**

- a. air-A
- b. A-B
- c. B-C
- d. C-air

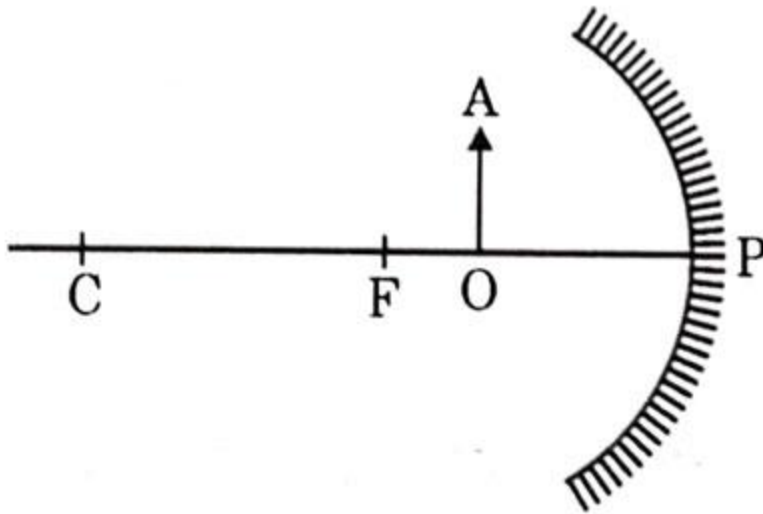
**Question 21**

**Which of the following statements is not true for scattering of light?**

- a. Colour of the scattered light depends on the size of particles of the atmosphere.
- b. Red light is least scattered in the atmosphere.
- c. Scattering of light takes place as various colours of white light travel with different speed in air.
- d. The fine particles in the atmospheric air scatter the blue, light more strongly than red. So the scattered blue light enters our eyes.

**Question 22**

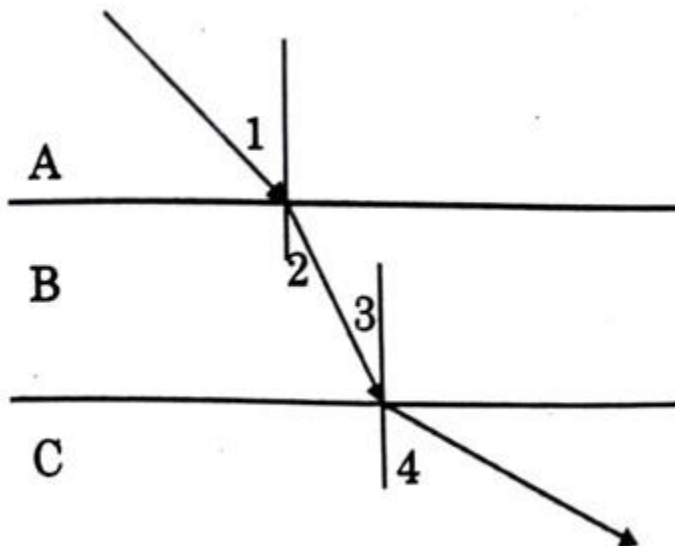
**For the diagram shown according to the new Cartesian sign convention the magnification of the image formed will have the following specifications:**



- a. Sign – Positive, Value — Less than 1
  - b. Sign — Positive, value – More than 1
  - c. Sign — Negative, Value — Less than 1
  - d. Sign Negative, value — More than 1
- spheric air scatter the blue, light more strongly than red. So the scattered blue light enters our eyes.

**Question 23**

**A ray of light is incident as shown. If A, B and C are three different transparent media. then which among the following options is true for the given Diagram?**

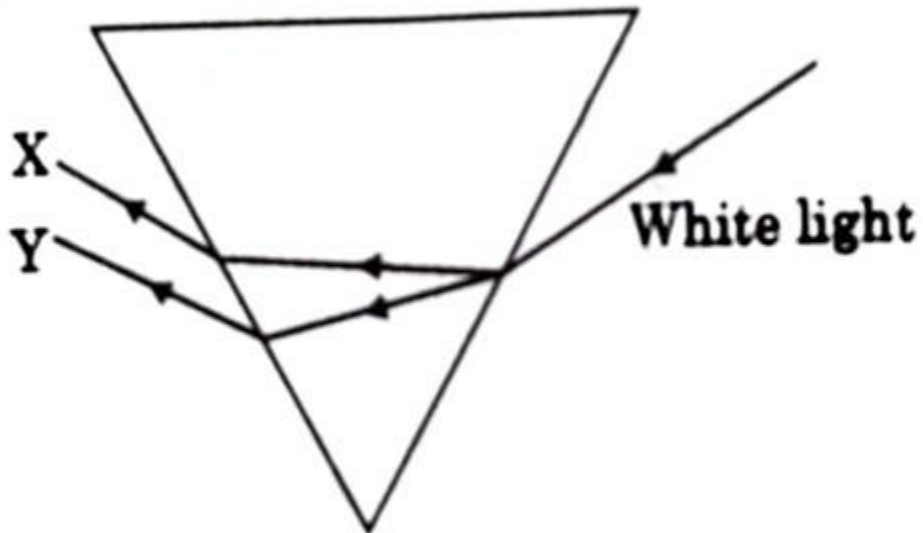


- a.  $\angle 1 > \angle 4$   $\angle 1 > \angle 4$
- b.  $\angle 1 < \angle 2$   $\angle 1 < \angle 2$
- c.  $\angle 3 = \angle 2$   $\angle 3 = \angle 2$

d.  $\angle 3 > \angle 4 > \angle 3 > \angle 4$

**Question 24**

In the diagram given below X and Y are the end colours of the spectrum of white light. The colour of 'Y' Represents the



- a. Colour of sky as seen from earth during the day.
- b. Colour of the sky as seen from the moon.
- c. Colour used to paint the danger signals.
- d. Colour of sun at the time of noon