

CLASS

10



PHYSICS  
WALLAH

CBSE

15

SAMPLE  
QUESTION  
PAPERS

WITH CHEAT SHEETS  
TO REVISE YOUR CONCEPTS

SCIENCE

WITH CBSE SQP, APQ & 2024 SOLVED PAPER

ADHERED TO COMPETENCY BASED LEARNING

2025  
EXAMINATION

# How to Rock Your Board Exams?



**Admit Card:** Double-check your admit card before heading to the exam center.



**Stationary:** Bring pens, pencils, erasers, sharpeners, ruler, and a geometry box. Ensure working pens with sufficient ink and carry spares.



**Water bottle and wrist watch:** Bring a transparent water bottle for hydration and a wrist watch to monitor time; avoid digital watches which may not be permitted.



**Arrive Early at the Examination Center:** Arrive before your admit card's reporting time for smooth security checks and room location.



**Read the Instructions carefully:** Read the instructions of the paper carefully to know the format, marking and special guidelines. Ask the invigilator for any doubts about instructions.



**Manage your Time:** Assign time for each section/question based on allotted marks and adhere to it for effective time management.



**Don't Panic:** If you find the paper difficult, remember that everyone else is likely feeling the same way. Stay focused, do your best, and don't let anxiety take over.



**Start with your Strengths:** Start with your strongest section/question to boost confidence for tougher parts.



**Answer clearly and neatly:** Write neatly, use headings, subheadings, and bullets for clarity and fetching more marks. Start with margins on both sides. This sets a structured format for your answers.



**Don't spend too much time on one question:** If a question is challenging or time-consuming, move on and revisit it later if possible. Avoid getting stuck on a single question.



**Use of HB pencil:** HB pencils produce a relatively dark and easily readable mark. Try to use HB pencils while making diagrams in the exam.



**Attempt all questions:** Even if unsure, attempt all questions; there is no negative marking in CBSE exams.



# SELF ASSESSMENT SHEET

Self-assessment plays a crucial role in exam preparation and offers several advantages:

- ❑ **Enhanced Self-awareness:** Self-assessment sheets help students gain a deeper understanding of their strengths and weaknesses across various subjects. Specific feedback on their performance provides valuable insights into areas of excellence and those that require improvement.
- ❑ **Focused Study:** These sheets provide clear guidance to students on where to direct their efforts. Identifying which questions to review, reattempt, or practice allows for more efficient and purposeful study sessions.
- ❑ **Targeted Improvement:** By categorizing questions into different categories (e.g., Easy, Revise, Reattempt), students can concentrate on areas that require the most attention. This targeted approach can result in significant improvements in their comprehension and performance.
- ❑ **Motivation:** Self-assessment sheets serve as a source of motivation for students. Observing their progress and understanding the steps needed for improvement can boost their motivation to work harder and achieve better results.
- ❑ **Reduced Exam Anxiety:** Having a clear understanding of their preparation progress helps reduce exam-related anxiety. Students feel more confident when they know what aspects to focus on, leading to a calmer and more effective exam experience.
- ❑ **Time Management:** Self-assessment sheets aid students in managing their study time more effectively. They can allocate more time to areas requiring extensive revision or reattempt while spending less time on topics they have already mastered.

**Self evaluation Instruction:** After completing the test, evaluate it using the provided explanations. Use only a pencil to mark the evaluations (allowing for revisions and reattempts). Record the marks obtained in the Marks section and provide remarks in the Remarks column.

## Remarks abbreviations:

- ❑ **Easy (E):** Use for questions that you should find straightforward, indicating a good understanding and correct answers.
- ❑ **Revise (R):** Assign to questions where your response contains minor errors or gaps in understanding, suggesting the need for topic review.
- ❑ **Reattempt (RA):** Use for questions with incorrect responses, significant misconceptions, or a lack of understanding. Students receiving this remark should revisit the topic thoroughly, seek additional help if necessary, and attempt similar questions to enhance their grasp of the concept.

[illegible]

## Chapter-wise Weightage & Trend analysis

# CBSE PAST 5 YEARS PAPERS

SCIENCE									
CHAPTERS	2020		2021	2022		2023		2024	
	DL	ODL	Exam not Conducted	DL	ODL	DL	ODL	DL	ODL
Chemical Reactions and Equations	5	7		-	-	8	6	7	7
Acids, Bases and Salts	5	5		-	-	8	10	4	5
Metals and Non-metals	5	5		-	-	4	6	8	7
Carbon and its Compounds	5	7		5	5	7	6	6	6
Periodic Classification of Elements ( <i>Rationalised</i> )	5	5		5	5	-	-	-	-
Life Processes	5	8		-	-	10	10	5	8
Control and Coordination	3	4		-	-	3	1	6	6
How do Organisms Reproduce?	7	5		6	7	6	5	6	10
Heredity and Evolution ( <i>Some portion is Rationalised</i> )	8	6		7	6	6	6	6	1
Light - Reflection and Refraction	9	11		-	-	12	9	7	10
The Human Eye and the Colourful World ( <i>Some portion is Rationalised</i> )	3	4		-	-	2	5	5	2
Electricity ( <i>Some portion is Rationalised</i> )	7	8		6	6	11	8	7	8
Magnetic Effects of Electric Current ( <i>Some portion is Rationalised</i> )	6	2		6	6	5	5	6	8
Sources of Energy ( <i>Rationalised</i> )	1	4		-	-	-	-	-	-
Our Environment	4	3		5	5	5	5	4	5
Sustainable Management of Natural Resources ( <i>Rationalised</i> )	2	1		-	-	-	-	-	-

\*The marks allotment mentioned above is chapter-wise and includes internal choice questions as well. Therefore, the total might not match the Maximum Marks of the respective Previous Year Paper. Here, DL is Delhi, ODL is Outside Delhi.

# Comparative Analysis

## CBSE SQP 2023-24 vs. Past Year Paper 2023 vs. 2024 Paper

SCIENCE						
CHAPTERS	Sample Question Paper 2023-24		2023 Paper		2024 Paper	
	Question Typology	Total Marks	Question Typology	Total Marks	Question Typology	Total Marks
Chemical Reactions and Equations	1 MCQ , 1A/R, 1 VSA	4	3 MCQ, 1 SA	6	1 SA, 1 VSA, 2 MCQ	7
Acids, Bases and Salts	1 MCQ , 1 LA	5	3 MCQ, 2 VSA, 1 SA	10	1 Case Base + 1 MCQ	5
Metals and Non-metals	5 MCQ, 2 SA	11	1 MCQ, 1 A/R, 1 CASE-BASED	6	3 MCQ, 1 A/R, 1 SA	7
Carbon and its Compounds	1 LA, 1 LA, 1 CASE-BASED	10	1 MCQ, 1 LA	6	1 MCQ, 1LA	6
Life Processes	2 MCQs, 1 VSA	4	2 MCQs, 1 A/R, 2 VSA, 1 SA	10	2 MCQ, 1 SA	5
Control and Coordination	1 MCQ, 1 SA, 1 LA	9	1 MCQ	1	1 MCQ, 1 LA	6
How do Organisms Reproduce?	1 MCQ, 1 AR, 1 VSA, 1 LA	9	1 LA	5	1 MCQ, 1 A/R, 1 VSA, 1 SA, 1 Case Based	11
Heredity	1 MCQ, 1 SA, 1 CASE-BASED	8	1 MCQ, 1 A/R, 1 CASE-BASED	6	1 MCQ	1
Light - Reflection and Refraction	1 MCQs, 1 SA, 1 LA, 1 VSA	11	1 SA, 2 CASE-BASED	9	1 MCQ, 1 A/R, 1 SA	5
The Human Eye and the Colourful World	1 MCQ	1	2 VSA, 1 SA	5	1 MCQ, 1 A/R	2
Electricity	2 SA, 1 CASE-BASED, 1 VSA	12	3 MCQ, 1 LA	8	2 MCQ, 1 VSA, 1 case base	8
Magnetic Effects of Electric Current	OR 1 VSA AND 1 A/R	2	1 MCQ, 1 AR, 1 SA	5	1 MCQ, 1 A/R, 1 SA	5
Our Environment	2 MCQs, 1 AR, 1 VSA	5	1 VSA, 1 SA	5	1 VSA, 1 SA	5

# CONTENTS

## SCIENCE

1 - 248

Upcoming CBSE  
SQPs/APQs can  
be accessed  
through this QR



### I. Cheat Sheets

1. Chemical Reactions and Equations	1–2
2. Acids, Bases and Salts	3–4
3. Metals and Non-metals	5–6
4. Carbon and its Compounds	7–9
5. Life Processes	10–12
6. Control and Coordination	13–14
7. How do Organisms Reproduce?	15–17
8. Heredity	18–19
9. Our Environment	20–21
10. Light - Reflection and Refraction	22–24
11. The Human Eye and The Colourful World	25–26
12. Electricity	27–28
13. Magnetic Effects of Electric Current	29–30

### II. CBSE Solved Papers

1. CBSE Solved Paper 2023	31–52
2. CBSE Sample Question Paper (Issued by CBSE on 31 <sup>st</sup> March, 2023)	53–64
3. CBSE Sample Question Paper (Issued by CBSE on 08 <sup>th</sup> September, 2023)	65–78

### III. Sample Question Papers

1. Sample Question Paper-1 (Easy)	79–84
2. Sample Question Paper-2 (Easy)	85–89
3. Sample Question Paper-3 (Easy)	90–95
4. Sample Question Paper-4 (Easy)	96–101
5. Sample Question Paper-5 (Medium)	102–106
6. Sample Question Paper-6 (Medium)	107–111

7. Sample Question Paper-7 (Medium)	112–117
8. Sample Question Paper-8 (Medium)	118–123
9. Sample Question Paper-9 (Medium)	124–130
10. Sample Question Paper-10 (Hard)	131–137
11. Sample Question Paper-11 (Hard)	138–144
12. Sample Question Paper-12 (Hard)	145–151
13. Sample Question Paper-13 (Hard)	152–158

#### IV. Explanations

1. Sample Question Paper-1	161–167
2. Sample Question Paper-2	168–175
3. Sample Question Paper-3 (Handwritten through QR code)	176
4. Sample Question Paper-4 (Handwritten through QR code)	176
5. Sample Question Paper-5	177–183
6. Sample Question Paper-6	184–191
7. Sample Question Paper-7	192–199
8. Sample Question Paper-8 (Handwritten through QR code)	200
9. Sample Question Paper-9 (Handwritten through QR code)	200
10. Sample Question Paper-10	201–207
11. Sample Question Paper-11	208–215
12. Sample Question Paper-12	216–223
13. Sample Question Paper-13 (Handwritten through QR code)	224

#### V. CBSE Solved Paper 2024



# CHAPTER-1

## CHEMICAL REACTIONS AND EQUATIONS

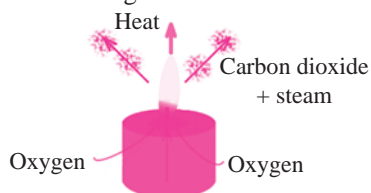
To Access One Shot Revision  
Video Scan This QR Code



### Real Life Applications And Mnemonics

#### REAL LIFE APPLICATIONS

1. Cooking involves many physical and chemical changes such as heating, boiling, frying, baking, and fermentation.
2. Photosynthesis is considered as a chemical change that takes place in plants where sunlight gets converted into energy through a series of chemical reactions.
3. Burning of candles involves a chemical change where the wax of the candle reacts with oxygen in the air to produce carbon dioxide and water vapour, releasing energy in the form of heat and light.



4. Digestion is an example of a chemical reaction in which enzymes break down food molecules into smaller, more easily absorbed molecules. This process involves the release of energy, a change in color and texture, and the formation of new substances.
5. In agriculture, balancing chemical equations to produce fertilizers, which are used to improve crop yield. The balanced equation helps in determining the exact amount of nutrients needed for plant growth.
6. Coal burns in air to form carbon dioxide and water. This is an example of a combination reaction.
7. Formation of rust on the surface of iron objects is a redox reaction between iron and oxygen in an environment having water.



8. The Statue of Liberty has been turned green over the years due to corrosion of the Cu metal from which it is made up of.



#### MNEMONICS

1. To remember chemical change characteristics, mnemonics PROD can be used which means:
  - ☐ P-Production of new substance
  - ☐ R- Release of gas
  - ☐ O-Observed energy change
  - ☐ D- Dramatic change in properties
2. MAD HOP can be used to remember which species to balance first in chemical reaction.  
MAD stands for Metal, Acid, and then Diatomic, while HOP stands for Hydrogen, Oxygen, and Polyatomic.
3. Redox reaction involves oxidation and reduction simultaneously. In order to remember the terms oxidation and reduction, given below mnemonics can be used.

LEO the lion says GER

↓	↓
L-Loss of	G-Gain of
E-Electrons is	E-Electrons is
O-Oxidation	R-Reduction

4. To remember the factors contribute to rancidity, FAO can be used.

**FAO:** This mnemonic stands for the factors that contribute to rancidity, including fatty acids, Air, and Oxygen

## CHEMICAL EQUATIONS

## TYPES

It is the representation of chemical reaction in symbols and it needs to be balanced.



## CHARACTERISTICS

- Evolution of gas



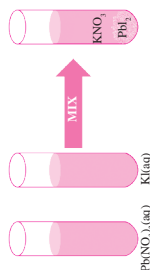
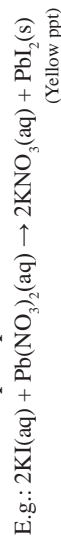
- Change in temperature



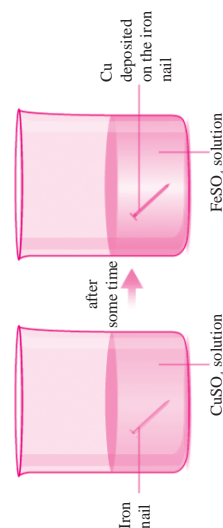
- Change in state



- Formation of precipitate



- Change in colour



## CHEMICAL REACTIONS

Represented as

## EFFECTS OF OXIDATION

(a) **Corrosion:** Degradation of metals,  
E.g.:  $\text{Rust Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$



(b) **Rancidity:** Oxidation of foods containing oils and fats.

**Preventions**

1. BHA and BHT chemicals
2. Nitrogen gas
3. Refrigeration

- **Combination reaction:** When 2 or more element combines to form single product  
E.g.:  $2\text{Na(s)} + \text{Cl}_2\text{(g)} \rightarrow 2\text{NaCl(s)}$

- **Decomposition reaction:** Single reactant breaks down into 2 or more products. It is of three types:

1. **Thermal Decomposition**, by heat



2. **Photo Decomposition**, by sunlight



3. **Thermal Decomposition**, by electricity



- **Single displacement reaction:** More reactive element displaces less reactive elements from its salt solutions.  
E.g.:  $\text{Fe(s)} + \text{CuSO}_4\text{(aq)} \rightarrow \text{FeSO}_4\text{(aq)} + \text{Cu(s)}$

- **Double displacement reaction:** Exchange of ion takes place.  
E.g.:  $\text{Na}_2\text{SO}_4\text{(aq)} + \text{BaCl}_2\text{(aq)} \rightarrow 2\text{NaCl(aq)} + \text{BaSO}_4\text{(aq)}$

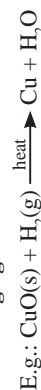
- **Redox Reactions**

- **Oxidation:** (a) Addition of  $\text{O}_2$  (b) Removal of  $\text{H}_2$

- **Reducing:** (a) Addition of  $\text{H}_2$  (b) Removal of  $\text{O}_2$

- **Oxidising agent** which oxidises others.

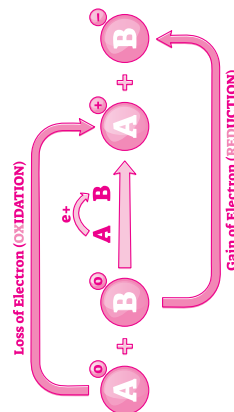
- **Reducing agent** which reduces others.



Oxidation  $\rightarrow \text{H}_2$       Reduction  $\rightarrow \text{CuO}$

Oxidising agent  $\rightarrow \text{CuO}$       Reducing agent  $\rightarrow \text{H}_2$

**REDOX REACTION**



# CBSE Solved Paper 2024

## In Exams Guru's Ink

Time allowed : 3 hours

Maximum Marks : 80

### GENERAL INSTRUCTIONS:

Read the following instructions very carefully and strictly follow them:

- (i) This question paper comprises 39 questions. All questions are compulsory.
- (ii) This question paper is divided into FIVE sections viz. Section A, B, C, D and E.
- (iii) In Section A - question number 1 to 20 are Multiple Choice Questions (MCQs) carrying 1 mark each.
- (iv) In Section B - question number 21 to 26 are Very Short Answer (VSA) type questions carrying 2 marks each. Answer to these questions should be in the range of 30 to 50 words.
- (v) In Section C - question number 27 to 33 are Short Answer (SA) type questions carrying 3 marks each. Answer to these questions should be in the range of 50 to 80 words.
- (vi) In Section D - question number 34 to 36 are Long Answer (LA) type questions carrying 5 marks each. Answer to these questions should be in the range of 80 to 120 words.
- (vii) In Section E - question number 37 to 39 are of 3 source-based/case-based units of assessment carrying 4 marks each with sub-parts.
- (viii) There is no overall choice. However, an internal choice has been provided in some Sections. Only one of the alternatives has to be attempted in such questions.

### SECTION - A

Select and write one most appropriate option out of the four options given for each of the questions 1 to 20:

1. Consider the following statements about homologous series of carbon compounds:

1

- A. All succeeding members differ by  $-\text{CH}_2$  unit.
- B. Melting point and boiling point increases with increasing molecular mass.
- C. The difference in molecular masses between two successive members is 16 u.
- D.  $\text{C}_2\text{H}_2$  and  $\text{C}_3\text{H}_4$  are NOT the successive members of alkyne series.

The correct statements are-

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

1. (a) In a homologous series, the difference in molecular masses between two successive members is 14u (not 16u).  $\text{C}_2\text{H}_2$  and  $\text{C}_3\text{H}_4$  are the successive members of the alkyne series as they differ by the  $-\text{CH}_2$  unit and corresponds to the same general formula of alkynes series.

10. Which of the following statement(s) is (are) true about human heart?

1

- (A) Right atrium receives oxygenated blood from lungs through pulmonary artery.  
 (B) Left atrium transfers oxygenated blood to left ventricle which sends it to various parts of the body.  
 (C) Right atrium receives deoxygenated blood through vena cava from upper and lower body.  
 (D) Left atrium transfers oxygenated blood to aorta which sends it to different parts of the body.  
 (a) (A) (b) (A) and (D) (c) (B) and (C) (d) (B) and (D)

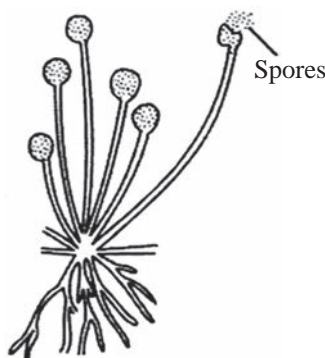
10.(c) The incorrect statements are:

(a) The right atrium receives deoxygenated blood through the vena cava, not oxygenated blood from the pulmonary artery.

(b) The left atrium transfers oxygenated blood to the left ventricle, which then sends it to the aorta, not directly from the left atrium to the aorta.

11. Which one of the following organism is represented by this diagram?

1



- (a) *Spirogyra* (b) *Planaria* (c) Yeast (d) *Rhizopus*

11.(d) The diagram shows a sporangium with spores, characteristics of Rhizopus, a type of fungus, commonly known as bread mold.

12. A cross made between two pea plants produces 50% tall and 50% short pea plants. The gene combination of the parental pea plants must be

1

- (a) Tt and Tt (b) TT and Tt (c) Tt and tt (d) TT and tt

# CBSE SAMPLE QUESTION PAPER

(Issued by CBSE on 31<sup>st</sup> March, 2023)

**Class-X Session: 2023-24**

**SCIENCE (086)**

Time allowed : 3 hours

Maximum Marks : 80

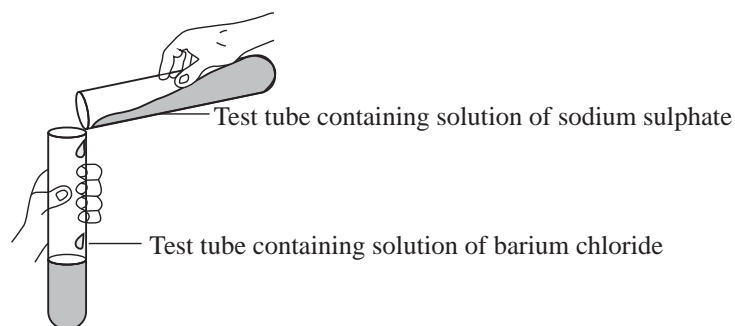
## GENERAL INSTRUCTIONS:

- (i) This question paper consists of **39** questions in **5** sections.
- (ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- (iii) Section **A** consists of **20** objective type questions carrying **1** mark each.
- (iv) Section **B** consists of **6** Very Short questions carrying **02** marks each. Answers to these questions should be in the range of **30** to **50** words.
- (v) Section **C** consists of **7** Short Answer type questions carrying **03** marks each. Answers to these questions should be in the range of **50** to **80** words.
- (vi) Section **D** consists of **3** Long Answer type questions carrying **05** marks each. Answer to these questions should be in the range of **80** to **120** words.
- (vii) Section **E** consists of **3** source-based/case-based units of assessment of **04** marks each with sub-parts.

## SECTION - A

Select and write the most appropriate option out of the four options given for each of the question 1 – 20. There is no negative mark for incorrect response.

1.



Identify the product which represents the solid state in the above reaction.

- (a) Barium chloride      (b) Barium sulphate      (c) Sodium chloride      (d) Sodium sulphate

**Sol.** (b) Barium sulphate

(1 M)

2. The colour of the solution observed after 30 minutes of placing zinc metal to copper sulphate solution is

- (a) Blue      (b) Colourless      (c) Dirty green      (d) Reddish Brown

**Sol.** (b) Colourless

(1 M)



# CBSE SAMPLE QUESTION PAPER

(Issued by CBSE on 08<sup>th</sup> September, 2023)

## (ADDITIONAL PRACTICE QUESTIONS)

### Class-X Session: 2023-24 SCIENCE (086)

Time Allowed : 3 hours

Maximum Marks : 80

#### GENERAL INSTRUCTIONS:

- This question paper consists of **39** questions in **5** sections.
- All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
- Section **A** consists of **20** objective type questions carrying **1** mark each.
- Section **B** consists of **6** Very Short questions carrying **02** marks each. Answers to these questions should be in the range of **30** to **50** words.
- Section **C** consists of **7** Short Answer type questions carrying **03** marks each. Answers to these questions should be in the range of **50** to **80** words.
- Section **D** consists of **3** Long Answer type questions carrying **05** marks each. Answer to these questions should be in the range of **80** to **120** words.
- Section **E** consists of **3** source-based/case-based units of assessment of **04** marks each with sub-parts.

#### SECTION - A

Select and write the most appropriate option out of the four options given for each of the questions 1 - 20. There is no negative mark for incorrect response.

1. A single displacement reaction is represented below.  $PQ + R \rightarrow PR + Q$   
Which of the following is true about the reactants and products?

Option	Type of ion of R in product	Stability of PR as compared to PQ
A	cation	more stable
B	cation	less stable
C	anion	more stable
D	anion	less stable

(a) A

(b) B

(c) C

(d) D

Sol. (c) C

(1 M)

2. Some types of chemical reactions are listed below.

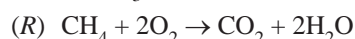
- decomposition

- combination

- displacement

- double displacement

Which two of the following chemical reactions are of the SAME type?



(a) P and Q

(b) Q and R

(c) R and S

(d) P and S

Sol. (d) P and S

(1 M)

3. Neetu has two test tubes containing dilute hydrochloric acid and dilute sodium hydroxide solution, but they are not labeled. Adding which of the following solutions to the test tubes will help her visually identify the acidic and basic solution?
- (a) only vinegar (b) only baking soda  
(c) only sodium chloride (d) either vinegar or sodium chloride

**Sol.** (b) only baking soda

(1 M)

4. Sonia has aqueous solutions of three salts, sodium acetate, sodium chloride and ammonium chloride in three test tubes. The test tubes are not labeled. On checking, she finds the pH of the solutions to be 4.6, 7.0 and 8.9.

Which of the following correctly matches the salts with their respective pH?

	pH 4.6	pH 7.0	pH 8.9
A	sodium acetate	sodium chloride	ammonium chloride
B	sodium chloride	ammonium chloride	sodium acetate
C	ammonium chloride	sodium acetate	sodium chloride
D	ammonium chloride	sodium chloride	sodium acetate

(a) A

(b) B

(c) C

(d) D

**Sol.** (d) D

(1 M)

5. Galvanisation is a process of coating iron articles with a layer of zinc to prevent the iron from rusting. The iron is protected even if the zinc coating is scratched and iron is exposed. Which of the following is true about how zinc prevents the rusting of iron?

(P) A galvanised iron article does not undergo oxidation.

(Q) The zinc coating prevents contact of iron with air.

(R) Zinc undergoes corrosion more easily than iron.

(a) only P

(b) only Q

(c) only P and Q

(d) only Q and R

**Sol.** (d) only Q and R

(1 M)

6. During purification of a metal by electrolysis, what happens at the negative electrode?

(a) Metal ions lose electrons to become neutral atoms.

(b) Neutral metal atoms gain electrons to become ions.

(c) Neutral metal atoms lose electrons to become ions.

(d) Metal ions gain electrons to become neutral metal atoms

**Sol.** (d) Metal ions gain electrons to become neutral metal atoms

(1 M)

7. Metals are lustrous and shine especially when their freshly cut surfaces are exposed.

Salma cut pieces and compared the lustre of the freshly cut surfaces of the following metals.

aluminium, sodium, copper, iron

The freshly cut surface of which of these metals is likely to lose its lustre first on exposure to air?

(a) aluminium

(b) sodium

(c) copper

(d) iron

**Sol.** (b) sodium

(1 M)

8. Which of the following statements is TRUE about the uptake of water in plants?

(a) It occurs all the time due to diffusion.

(b) Water enters the roots due to osmosis.

(c) At night when transpiration is low, roots do not take up water.

(d) The movement of water from roots to leaves is bidirectional.

**Sol.** (b) Water enters the roots due to osmosis.

(1 M)

Roll No. 

--	--	--	--	--	--	--	--

**Q.P. Code 01**

Candidates must write the Q.P. Code on the title page of the answer book.

# SAMPLE QUESTION PAPER-I

## SCIENCE

Time allowed : 3 hours

Maximum Marks : 80

**NOTE:**

- (i) *Q.P. Code given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.*
- (ii) *Please check that this question paper contains **39** questions.*
- (iii) ***Please write down the Serial Number of the question in the answer-book before attempting it.***
- (iv) *15 minute time has been allotted to read this question paper. The students will read the question paper only and will not write any answer on the answer-book during this period.*

**GENERAL INSTRUCTIONS:**

**Read the following instructions carefully and strictly follow them:**

- (i) *This question paper consists of **39** questions. **All** questions are compulsory.*
- (ii) *Question paper is divided into **FIVE** sections viz. Section **A, B, C, D** and **E**.*
- (iii) *In Section **A** - question number **1** to **20** are Multiple Choice Questions (MCQs) carrying **1** mark each.*
- (iv) *In Section **B** - question number **21** to **26** are Very Short Answer (VSA) type questions carrying **2** marks each. Answer to these questions should be in the range of **30** to **50** words.*
- (v) *In Section **C** - question number **27** to **33** are Short Answer (SA) type questions carrying **3** marks each. Answer to these questions should be in the range of **50** to **80** words.*
- (vi) *In Section **D** - question number **34** to **36** are Long Answer (LA) type questions carrying **5** marks each. Answer to these questions should be in the range of **80** to **120** words.*
- (vii) *In Section **E** - question number **37** to **39** are of **3** source-based/case-based units of assessment carrying **4** marks each with sub-parts.*
- (viii) *There is no overall choice. However, an internal choice has been provided in some Sections.*

## SECTION - E

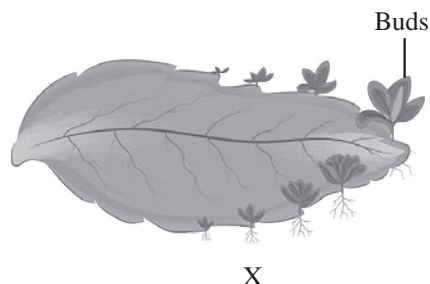
**Q. No. 37 to 39 are case based/data based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.**

- 37.** Metal oxides are basic in nature. But some metal oxides, such as aluminium oxide, zinc oxide, etc., show both acidic as well as basic behaviour. Such metal oxides which react with both acids as well as bases to produce salts and water are known as amphoteric oxides. Most metal oxides are insoluble in water but some of these dissolve in water to form alkalis.

- (a) Write reactions of amphoteric oxide with both acid and base. 1  
 (b) Why is potassium and sodium kept under the kerosene oil? 2

**OR**

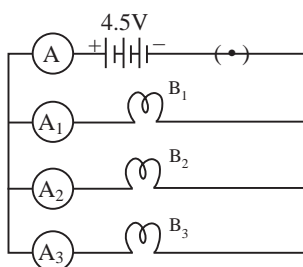
- (b) Name two oxide which are soluble in water and form alkalis? Write reactions also. 2  
**38.** Radhika is an avid gardener who has a wide variety of flowering plants in her garden. One day, some mischievous children entered her garden and plucked a leaf X from some of the plants and scattering them around the garden. A few days later, Radhika noticed that new buds were sprouting from the leaves that had fallen on the ground.



- (a) Explain the process involved in the sprouting of new buds from leaf X. 2  
 (b) Discuss the significance of leaf X in the propagation of flowering plants. How can this natural process be advantageous for gardeners? 1  
 (c) In the case of the money plant, which plant part has the ability to reproduce through a process similar to that observed with leaf X? 1

**OR**

- (c) Explain how the process adopted by leaf X contributes to genetic diversity. 1  
**39.** Study the circuit shown in which three identical bulbs  $B_1$ ,  $B_2$ , and  $B_3$  are connected in parallel with a battery of 4.5V and answer the following questions.



- (a) What will happen to the glow of the other two bulbs if the bulb  $B_3$  gets fused? 1  
 (b) If the wattage of each bulb is 1.5W, how much readings will the ammeter A show when all the three bulbs glow simultaneously. 1  
 (c) Find the total resistance of the circuit. 2

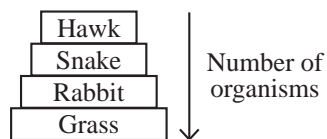
**OR**

- (c) How many resistors of  $88\ \Omega$  are connected in parallel to carry 10 A current on a 220 V line? 2

# SAMPLE QUESTION PAPER-I

## (Explanations)

1. (c) During a physical change, the arrangement of particles can change but no new substance will be formed. So, according to the law of conservation of mass, total mass remains constant. (1 M)
2. (c) Arsenic is a metalloid which exhibits the properties of both metals and non-metals. (1 M)
3. (d) Detergents are more suitable for washing delicate fabrics because they are milder and do not form scum in hard water. Soaps, on the other hand, can be harsh on delicate fabrics and forms scum in hard water, reducing their effectiveness. (1 M)
4. (b) The name of this acid is hydrochloric acid. (1 M)
5. (b) Copper is found in its native or free state in nature, meaning it occurs in its elemental form without being chemically combined with other elements. (1 M)
6. (a) Iron (III) chloride ( $\text{FeCl}_3$ ) reacts with sodium hydroxide ( $\text{NaOH}$ ) is a double displacement reaction to form iron(III) hydroxide ( $\text{Fe}(\text{OH})_3$ ) as a yellowish brown precipitate and sodium chloride ( $\text{NaCl}$ ). (1 M)
7. (a) The pH range of an acidic solution is from  $<7$ . (1 M)
8. (a) A represents the spinal cord. It is the primary control centre for the reflex behaviour. (1 M)
9. (c) The following events occur during photosynthesis–
  - (i) Absorption of light energy by chlorophyll.
  - (ii) Conversion of light energy to chemical energy and splitting of water molecules into hydrogen and oxygen.
  - (iii) Reduction of carbon dioxide to carbohydrates. (1 M)
10. (b) Stomata are tiny pores present on the surface of the leaves. Massive amounts of gaseous exchange takes place in the leaves through these pores for the purpose of photosynthesis. (1 M)
11. (b) The number of organisms at any trophic level depends upon the amount of food and energy at the previous level. Therefore, the most food chains will have higher number of organisms at the producer level and the number decreases at each successive level.



(1 M)



### Nailing the Right Answer

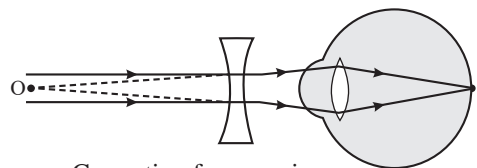
Use diagrams or flowcharts to visually represent trophic levels. This can make the concept more engaging and easier to understand.

12. (c) When iodine solution is added to rice water, the solution turns blue black because of the presence of starch. This indicates that rice water contains starch. (1 M)
13. (b) The nature of the image depends on the position of the object. (1 M)
14. (b) According to the lens formula,  $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$   

$$\frac{1}{f} = \frac{1}{60} + \frac{1}{30}$$
 Simplifying further, we get:  

$$\frac{1}{f} = \frac{1+2}{60} = \frac{3}{60} \Rightarrow \frac{1}{f} = \frac{1}{20}$$
 Therefore, the focal length (f) of the convex lens is 20 cm. (1 M)
15. (d) Sexual reproduction introduces genetic variation in a population by combining genetic material from two individuals, resulting in offspring with unique combinations of traits. (1 M)
16. (c) In ecological systems, energy transfer between trophic levels is relatively inefficient, with only 10% of the energy moving from one level to the next due to losses in metabolic processes and heat production. Thus, the wolves would have only 100 units of energy. (1 M)
17. (c)  $\text{Cu(I)}$  gets reduced while sulphur gets oxidised. Hence,  $\text{Cu(I)}$  acts as the oxidising agent while S in  $\text{Cu}_2\text{S}$  as reducing agent. (1 M)
18. (a) The uterus prepares itself every month to receive a fertilised egg. Thus its lining becomes thick and spongy. This would be required for nourishing the

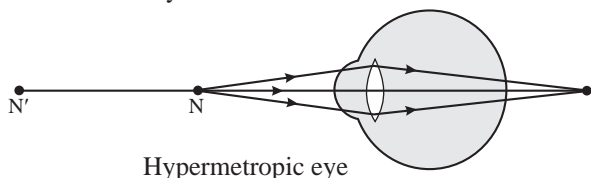




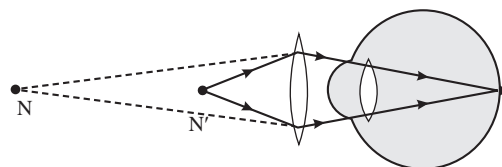
Correction for myopia

(1½ M)

To correct hypermetropia, a convex lens is used, which cause light to converge before it enters the eye. This helps to compensate for the insufficient curvature of the cornea or shortening of the eyeball, allowing light to focus directly on the retina.



Hypermetropic eye



Correction for Hypermetropic eye

(1½ M)

### Nailing the Right Answer

- ☐ Explain the structure of the human eye, including the cornea, lens, iris, pupil, and retina.
- ☐ Describe the functioning of the human eye, including how light is focused onto the retina and the role of rods, cones, and the fovea.
- ☐ Explain how we are able to see nearby and distant objects by discussing the process of accommodation and the role of the ciliary muscles.

37. (a) It shows the increase in an hydroxide ion concentration  $[\text{OH}^-]$  which means the higher the pH value, stronger will be the base. (1 M)
- (b) Milk of magnesia is basic in nature. Its pH is around 10. (1 M)
- (c) All living beings on this earth are pH sensitive which means their body work on normal pH. (1 M)

For plants, the pH range is 6 to 8. (½ M)

For Human beings, pH range is 7 to 7.8. (½ M)

OR

- (c) pH values can vary from 0 to 14.

For acidic solution, pH = 0 to 6.9

For basic solution, pH = 7.1 to 14

For neutral, pH = 7 (1 M)

Now, pH of X is 4 which is less than 7, so, the nature of this solution is acidic. (½ M)

pH of Y is greater than 7, so, the nature of this solution is basic. (½ M)

38. (a) The possible genotypes of the parent plants are YY (purebred yellow seeds) and yy (purebred green seeds), representing homozygous dominant and homozygous recessive genotypes, respectively. (1 M)

- (b)  $F_1$  generation resulting from this cross, will have the genotype Yy (heterozygous). The  $F_1$  generation will exhibit the phenotype of dominant trait, which is yellow seed color. (1 M)

- (c) When two  $F_1$  plants are crossed, the expected genotypic ratio in the  $F_2$  generation is 1 YY : 2 Yy : 1 yy. This follows a 1:2:1 ratio according to Mendel's law of segregation. The phenotypic ratio in the  $F_2$  generation is expected to be 3 yellow seeds : 1 green seed. (2 M)

OR

- (c) The principle of dominance states that in a heterozygous individual (Yy), only the dominant allele (Y) is expressed in the phenotype, masking the expression of the recessive allele (y). In this monohybrid cross, yellow seed color is dominant over green seed color. Therefore, all the  $F_1$  offspring will have yellow seeds, even though they carry one dominant and one recessive allele. (2 M)

### Mistakes 101 : What not to do!

Students might not accurately apply Mendel's law of segregation and provide incorrect ratios for the genotypes and phenotypes in the  $F_2$  generation.

### Nailing the Right Answer

- ☐ Demonstrate your understanding of Mendel's laws, such as the law of dominance and the law of segregation, while explaining the possible genotypes and phenotypes of the parent plants and the  $F_1$  and  $F_2$  generations.
- ☐ Practice cross by taking different examples and write the stages in proper sequence.

# Handwritten Explanations

Sample Question  
**Paper - 3**



**SCAN ME!**

Sample Question  
**Paper - 4**



**SCAN ME!**



*“Education is your passport to the future; every book you read, every class you attend, and every challenge you conquer unlocks new doors to your dreams.”*

CLASS

10



PHYSICS  
WALLAH

CBSE

15

SAMPLE  
QUESTION  
PAPERS

WITH CHEAT SHEETS  
TO REVISE YOUR CONCEPTS

MATHMATICS  
STANDARD

WITH CBSE SQP, APQ & 2024 SOLVED PAPER



ADHERED TO COMPETENCY BASED LEARNING

2025  
EXAMINATION

# CONTENTS

## MATHEMATICS (Standard) 1 - 241

Upcoming CBSE  
SQPs/APQs can  
be accessed  
through this QR



### I. Cheat Sheets

1. Real Numbers	1–2
2. Polynomials	3–5
3. Pair of Linear Equation in Two Variables	6–7
4. Quadratic Equations	8–9
5. Arithmetic Progressions	10–11
6. Triangles	12–13
7. Coordinate Geometry	14–15
8. Introduction to Trigonometry	16–17
9. Some Applications of Trigonometry	18–19
10. Circles	20–23
11. Areas Related to Circles	24
12. Surface Areas and Volumes	25
13. Statistics	26–28
14. Probability	29–30

### II. CBSE Solved Papers

1. CBSE Solved Paper 2023	31–48
2. CBSE Sample Question Paper (Issued by CBSE on 31 <sup>st</sup> March, 2023)	49–64
3. CBSE Sample Question Paper (Issued by CBSE on 08 <sup>th</sup> September, 2023)	65–86

### III. Sample Question Papers

1. Sample Question Paper-1 (Easy)	87–91
2. Sample Question Paper-2 (Easy)	92–96
3. Sample Question Paper-3 (Easy)	97–101
4. Sample Question Paper-4 (Easy)	102–107
5. Sample Question Paper-5 (Medium)	108–112
6. Sample Question Paper-6 (Medium)	113–117

7. Sample Question Paper-7 (Medium)	118—122
8. Sample Question Paper-8 (Medium)	123—127
9. Sample Question Paper-9 (Medium)	128—132
10. Sample Question Paper-10 (Hard)	133—137
11. Sample Question Paper-11 (Hard)	138—142
12. Sample Question Paper-12 (Hard)	143—148
13. Sample Question Paper-13 (Hard)	149—154

#### IV. Explanations

1. Sample Question Paper-1	157—163
2. Sample Question Paper-2	164—170
3. Sample Question Paper-3 (Handwritten through QR code)	171
4. Sample Question Paper-4 (Handwritten through QR code)	171
5. Sample Question Paper-5	172—179
6. Sample Question Paper-6	180—186
7. Sample Question Paper-7	187—194
8. Sample Question Paper-8 (Handwritten through QR code)	195
9. Sample Question Paper-9 (Handwritten through QR code)	195
10. Sample Question Paper-10	196—203
11. Sample Question Paper-11	204—210
12. Sample Question Paper-12	211—219
13. Sample Question Paper-13 (Handwritten through QR code)	220

#### V. CBSE Solved Paper 2024



CLASS

10



PHYSICS  
WALLAH

CBSE

15

SAMPLE  
QUESTION  
PAPERS



WITH CHEAT SHEETS  
TO REVISE YOUR CONCEPTS

LET'S  
GO!

YES I DO NOPE

ENGLISH

WITH CBSE SQP, APQ & 2024 SOLVED PAPER

ADHERED TO COMPETENCY BASED LEARNING

2025  
EXAMINATION

# CONTENTS

ENGLISH 1 - 233

Upcoming CBSE  
SQPs/APQs can  
be accessed  
through this QR



## I. Cheat Sheets

1. Literature	
□ First Flight-Prose	1–3
□ First Flight-Poetry	4–6
□ Footprints without Feet	7–10
2. Reading Skills	11
3. Writing	12–13
4. Grammar	14–18

## II. CBSE Solved Papers

1. CBSE Solved Paper 2023	19–36
2. CBSE Sample Question Paper (Issued by CBSE on 31 <sup>st</sup> March, 2023)	37–54
3. CBSE Sample Question Paper (Issued by CBSE in September, 2023)	55–70

## III. Sample Question Papers

1. Sample Question Paper-1 (Easy)	71–78
2. Sample Question Paper-2 (Easy)	79–85
3. Sample Question Paper-3 (Easy)	86–92
4. Sample Question Paper-4 (Easy)	93–99
5. Sample Question Paper-5 (Medium)	100–107
6. Sample Question Paper-6 (Medium)	108–114
7. Sample Question Paper-7 (Medium)	115–121
8. Sample Question Paper-8 (Medium)	122–128
9. Sample Question Paper-9 (Medium)	129–136
10. Sample Question Paper-10 (Hard)	137–144
11. Sample Question Paper-11 (Hard)	145–152
12. Sample Question Paper-12 (Hard)	153–160
13. Sample Question Paper-13 (Hard)	161–168









#### IV. Explanations

1. Sample Question Paper-1	171–176
2. Sample Question Paper-2	177–181
3. Sample Question Paper-3 (Handwritten through QR code)	182
4. Sample Question Paper-4 (Handwritten through QR code)	182
5. Sample Question Paper-5	183–187
6. Sample Question Paper-6	188–191
7. Sample Question Paper-7	192–196
8. Sample Question Paper-8 (Handwritten through QR code)	197
9. Sample Question Paper-9 (Handwritten through QR code)	197
10. Sample Question Paper-10	198–203
11. Sample Question Paper-11	204–208
12. Sample Question Paper-12	209–213
13. Sample Question Paper-13 (Handwritten through QR code)	214

#### V. CBSE Solved Paper 2024

i-xix

# How to Use This Book: A Simplified Guide

- |          |             |  |   |
|----------|-------------|--|---|
| <b>1</b> | <b>Step</b> | Gain a deep understanding of the most current exam trends through CBSE's Past 5 Years' Paper Trend Analysis and Comparative Analysis.  |    |
|          | <b>Step</b> | Scan the provided QR code to access lecture videos. These will help you understand the core concepts of each chapter   |    |
| <b>3</b> | <b>Step</b> | Use the 'Cheat Sheets' for each chapter to refresh and reinforce your understanding.   |    |
|          | <b>Step</b> | Study the CBSE Past Year Paper 2024 and CBSE SQP. Understand the exam's structure, types of questions, marks distribution, word limits, and marking criteria.  |    |
| <b>5</b> | <b>Step</b> | Select the Sample Question Paper and solve it in a setting that mimics the actual exam environment.  |   |
|          | <b>Step</b> | Solve sample papers of varying difficulty levels - easy, medium, and hard. This ensures a well-rounded preparation.  |   |
| <b>7</b> | <b>Step</b> | After attempting each paper, use the self-assessment sheet to grade yourself and understand your performance.  |  |
|          | <b>Step</b> | Compare your answers with the explanations provided in the book. Pay special attention to sections like "Mistakes 101", "Nailing the Right Answers", and "Topper's Explanations" to learn from common mistakes and understand the best ways to answer questions. |  |

**Remember, consistent practice and self-reflection are key.**

**Use this book as a tool to guide you, and you'll be well-prepared for your exams!**