

# Tripura Board Class 10 Science Sample Question Paper

## Sample Question Paper

Science

Physics and Chemistry

Theory

Time : 2 Hours

Full Marks : 53

Class –X

### General Instructions

1. This Question Paper comprises 2 Groups- A (Physics) and B (Chemistry). You are to answer questions from both the Groups.
2. All questions are compulsory.
3. Use of Calculator or any other electronic device in the examination hall is strictly prohibited.

### Group- A

PHYSICS

Full Marks – 27

Answer the following questions :-

- 1) What is the unit of Resistivity ? 1
- 2) What is the main constituent of Biogas ? 1
- 3) Choose the correct answer – 1  
The direction of rotation of Barlow's Wheel is determined by  
a) Fleming's Left Hand Rule  
b) Fleming's Right Hand Rule  
c) Ampere's Swimming Rule  
d) None of these
- 4) What is called Electromagnetic Induction ? 2
- 5) Write down two advantages of alternating current over direct current. 2
- 6) What is Myopia or Short-sight ? Show its remedy with the help of a ray diagram. (1+1)=2
- 7) During sunrise and sunset the Sun appears to be red while at noon it appears to be white – why ? 2
- 8) Write two differences between Nuclear Fission and Nuclear Fusion. 2
- 9) The equivalent resistances of two resistors connected in series and parallel are 6 ohms and  $\frac{5}{6}$  ohm respectively. Calculate the value of each resistor. 3
- 10) Write Joule's Laws of heating effect of current. 3
- 11) For a convex lens where should an object be placed so as to get its real and magnified image ? Show drawing a ray diagram. (2+1)=3

Or

For a concave mirror where should an object be placed so as to get its virtual and magnified image ? Show drawing a ray diagram. (2+1)=3

12)i) Calculate the focal length of a lens having power -2.5 dioptre(D) and mention the nature of the lens.

ii) What kind of mirror is used in the view-finder of vehicles and why?

iii) What do you understand by magnification in case of a lens?

$$[(1+1)+(\frac{1}{2} + 1\frac{1}{2}) + 1] = 5$$

Or

i) Refractive index of water is 1.33 – what do you mean by this statement?

ii) An object of height 2 cm. is placed at a distance of 20 cm. from a concave mirror. If a real image is formed 40 cm. away from the mirror, determine the focal length of the mirror. (2+3) = 5

**Group - B**  
**CHEMISTRY**  
Full Marks – 26

13. Which of the following is an acidic salt?

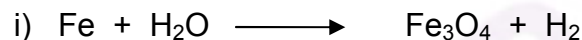
a)  $\text{CaCl}_2$     b)  $\text{Na}_2\text{CO}_3$     c)  $\text{KHCO}_3$     d)  $\text{MgSO}_4$  1

14. State the composition of stainless steel. 1

15. Name the second member of ketone. 1

16. Name two greenhouse gases.  $\frac{1}{2} + \frac{1}{2} = 1$

17. Balance the following equations:



18. Oxidation and reduction take place simultaneously – explain with one example. 2

19. Zinc oxide is an amphoteric oxide. Support your answer with equations. 2

Or

Dilute  $\text{H}_2\text{SO}_4$  can be kept in copper container but not in Zinc container. Explain. 2

20. Why should we conserve forest? 2

21. i) Write the chemical name and formula of bleaching powder.

ii) How is it prepared?

iii) Write two uses of it. 1+1+1 = 3

22. i) Name a metal which can be extracted by carbon reduction process from its ore.

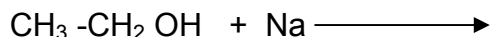
ii) Name the anode, the cathode and the electrolyte used in the electrolytic refining of impure copper. What is anode mud? 1+2 = 3

23. i) State the modern periodic law.

ii) Why does the size of the atom decrease across a period?

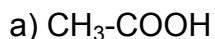
iii) Mention the position (period and group) of Sodium in the Periodic table. 1+1+1 = 3

24. i) Complete the equation:



ii) Show with one chemical test that ethylene is an unsaturated hydrocarbon.

iii) Write the IUPAC name of the following:



1+2+2 = 5

Or

i) What is the difference between soap and detergent chemically?

ii) Describe in brief the cleansing action of soap.

iii) Why do soaps not form lather easily in hard water?

1+2+2 = 5

### CLASS - X

#### PHYSICS PRACTICAL EXAMINATION

(Full Marks : 07)

Sl No.	Particulars	Marks
a) Marks distribution for Experiments		
1.	Principle or working formula	½
2.	Circuit Diagram/Ray Tracing	1
3.	Recording of Data with graph if there be any	1½
4.	Calculation	½
5.	Result with accuracy	½
Total		4
b) Laboratory Note Book with 3 experiments written and duly signed		2
c) Viva voce		1
Total		7

#### CHEMISTRY PRACTICAL EXAMINATION

(Full Marks : 07)

a) Marks distribution on experiment:

i) Procedure

ii) Observation

iii) Inference

2+1+1 = 4

b) Laboratory Note Book with at least three experiments written and duly signed:

2

c) Viva Voce:

1

### Blueprint for Question Paper setting for Group A (Physics and Chemistry)

Physics	Unit	Name	MCQ/Objective (1 mark)	SA (2marks)	LA-I (3 marks)	LA-II (5 marks)	Total Marks
	I)	Electricity	1	-	3 x 2	-	7
	II)	Magnetic effect of Current	1	2 x 2	-	-	5
	III)	Light – Reflection, Refraction	-	-	3 x 1	5 x 1	8
	IV)	Human Eye and Colorful World	-	2 x 2	-	-	4
	V)	Sources of Energy	1	2 x 1	-	-	3
	<b>Total Marks</b> →						<b>27</b>
	<b>No. of questions</b> →		3	5	3	1	<b>12</b>

Chemistry	Unit	Name	MCQ/Objective (1 mark)	SA (2 marks)	LA-I (3 marks)	LA-II (5 marks)	Total Marks
	VI	Chemical Reaction	-	2 x 2	-	-	4
	VII	Acids, Bases and Salts	1 x 1	-	3 x 1	-	4
	VIII	Metals and Non-Metals	1 x 1	2 x 1	3 x 1	-	6
	IX	Carbon Compounds	1 x 1	-	-	5 x 1	6
	X	Periodic classification of elements	-	-	3 x 1	-	3
	XI	Conservation of natural resources	1 x 1	2 x 1	-	-	3
	<b>Total Marks</b> →						<b>26</b>
	<b>No. of questions</b> →		4	4	3	1	<b>12</b>

উপরে প্রশ্নপত্র তৈরীর একটি ছক দেওয়া হল। প্রশ্নসংখ্যা এবং প্রশ্নের মান (marks) অপরিবর্তিত রেখে এই ছক পরিবর্তন করা যেতে পারে। যেমন MCQ/Objective এবং LA-I এর প্রশ্ন Unit-I থেকে না নিয়ে অন্য Unit থেকেও নেওয়া যেতে পারে। অনুরূপভাবে LA-II এর প্রশ্নটি Unit-III থেকে না নিয়ে অন্য Unit থেকেও নেওয়া যেতে পারে।

**Note :** i) There should be approximately 30% knowledge based, 40% understanding based, 25% application based and 5% skill based questions.

ii) While framing question, alternative question for internal choice should be given from the same unit.