

BOARD OF SECONDARY EDUCATION (AP)
SUMMATIVE ASSESSMENT – II
TENTH CLASS GENERAL SCIENCE
PHYSICAL SCIENCE MODEL PAPER
PAPER – I (ENGLISH VERSION)

Time: 2 hrs. 45 mins.

PART – A & B

Maximum Marks: 40

INSTRUCTIONS:

- i) In the time duration of 2 hours 45 minutes, 15 minutes of time is allotted to read and understand the question paper.
- ii) Answer the questions under Part – A on a separate answer book.
- iii) Write the answers to the questions under Part – B on the question paper itself and attach it to the answer book of Part – A.

Time: 2 hrs.

PART – A

Marks: 30

SECTION – I

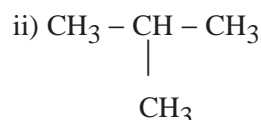
INSTRUCTIONS:

- i) Answer ALL the questions.
 - ii) Each question carries ONE mark.
 - iii) Answer each question in 1 – 2 sentences. 4 × 1 = 4
1. Two students while walking on the road in the afternoon found image of water on the road. When they went near nothing was found. Guess what could be the reason for this.
 2. Based on the following electronic configuration choose the atom that forms an ion. Give reasons
Electronic Configuration of A: $1s^2 2s^2 2p^6$
Electronic Configuration of B: $1s^2 2s^2 2p^6 3s^1$
 3. Which will have similar magnetic lines of force as bar magnet?
 4. What is the functional group present in CH_3COOH ? How do you test that group?

SECTION – II

INSTRUCTIONS:

- i) Answer ALL the questions.
 - ii) Each question carries TWO marks.
 - iii) Answer each question in 4 – 5 sentences. 5 × 2 = 10
5. Explain the importance of Ciliary muscles in eye.
 6. i) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$



We can see that number of Carbon and Hydrogens is the same in both the substances shown above. What do you understand by the given shapes? Explain.

7. Ravi wears a spectacle. From that his eyes observed to be bigger in size.
 a) What lens is used by him?
 b) What is the eye defect he is suffering from. Draw the ray diagram of the defect and explain.
8. How do you appreciate the role of octet rule in describing the properties of elements.
9. During rainy season the power supply to our home from the electrical pole will be interrupted, why? How do you restore the current.

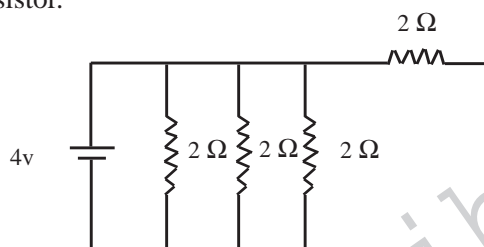
SECTION – III

INSTRUCTIONS :

- i) Answer ALL the questions.
 ii) Each question carries FOUR marks.
 iii) Answer each question in 8 – 10 sentences. $4 \times 4 = 16$
 iv) There is Internal Choice for each question. Only One option from each question is to be attempted.
10. a) Calculate the magnification values for concave mirror when the object is placed
 A) at the principal focus
 B) between the pole and the principal focus. Give reasons.

(OR)

- b) Find the current supplied by the battery in the circuit shown in the diagram. Calculate the current passing through 2Ω resistor.



11. a) A carbon compound A (formula C_2H_6O) is extensively used as a solution in preparing medicines. When this compound is heated along with Potassium permanganate it gets oxidised and finally a carbon compound B is formed. Compound B turns blue litmus to red.
 a) Write the chemical name and formula of compound A.
 b) Write the chemical name and formula of compound B.
 c) What is the nature of the compound B (acid / base / salt)?
 d) Write chemical equation indicating the intermediate product.

(OR)

- b) The Electronic Configuration of X, Y, Z are given below.

X : 2, Y : 2, 6; Z : 2, 8, 2

Answer the following questions.

- a) Which element belongs to 2nd period?
 b) Which element belongs to 18th group?
 c) Which element belongs to 2nd group?
 d) What is the valency of element B?

12. a) Ravi observed that during melting of ice, the temperature remained constant for certain time. What is the reason behind that and explain the process of melting.

(OR)

- b) What is a redox reaction? Describe an experiment, to explain it.

13. a) A) Define the terms with respect to a prism.

- i) Angle of incidence
- ii) Angle of emergence
- iii) Angle of deviation

- B) Draw a ray diagram to show the angle of deviation when a ray of light passes through a glass prism.

(OR)

- b) A) What are the different types of chemical decomposition reactions?

- B) Raghava dissociated water in to hydrogen and oxygen gases. Draw the diagram for this reaction. What are the apparatus required for this reaction.

22. If the resistance of your body is $1,00,000 \Omega$. What would be the current that flows in your body when you touch the terminals of a 12 V battery? ()
- 1) 12×10^{-4} A 2) $\frac{12}{10} \times 10^{-3}$ A 3) 12×10^{-5} A 4) 0.12×10^{-3} A
- A) 1 & 2 B) 3 & 4 C) 1 & 3 D) 2 & 4
23. A conductor is moving with a speed of 10 m/s in the direction perpendicular to the direction of magnetic field of induction 0.8 T. If it induces an e.m.f. of 8V between the ends of the conductor. Then the length of the conductor is ()
- A) 2 m B) 4 m C) 1 m D) 0.5 m
24. Which of the following compounds will not give addition reaction ()
- A) Ethane B) Ethyne C) Propene D) Methane
25. The resistivity of Silver is $1.59 \times 10^{-8} \Omega - m$ at $20^\circ C$ and the resistivity of air is $1.3 \times 10^{16} \Omega - m$ at $20^\circ C$ so with reference to electric current. ()
- A) Silver is a good conductor
B) Air is a good conductor
C) Both air and silver are good conductors
D) Silver is a bad conductor
26. A neutralisation is an example for reaction. ()
- A) Decomposition B) Combination
C) Displacement D) Double decomposition
27. Lakshmi got a real image of same size through a convex lens, then where is the object placed ()
- A) at the focus of the lens B) twice the focus of the lens
C) at infinity D) near the optic centre
28. The magnetic force on a charge moving parallel to a magnetic field is ()
- A) Bqv B) ∞ C) $Bqv \sin\theta$ D) 0
29. During electrolysis of Sodium chloride gas liberates at the anode. ()
- A) Oxygen B) Nitrogen C) Chlorine D) Hydrogen
30. An atom of an element has 12 protons. Then what is the position of the element in the periodic table ()
- A) 3rd period 2nd group B) 2nd period 2nd group
C) 2nd period 3rd group D) 3rd period 3rd group

31.

Material	Refractive index
P	1.33
Q	1.44
R	1.53
S	2.42

Material used to blue lenses ()

- A) P B) R C) Q D) S

