

**BOARD OF SECONDARY EDUCATION (TELANGANA)**

**SUMMATIVE ASSESSMENT – I**

**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 hrs. 45 mins. 15 minutes of time is allotted to read and understand the question paper.
- ii) Answer the questions under PART – A in 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. 15 mins.

PART – A

Marks: 35

**INSTRUCTIONS:**

- i) PART – A comprises of three Sections I, II, III.
- ii) All the questions are compulsory.
- iii) There is no overall choice. However, there is an internal choice to the questions under Section – III.

**SECTION – I**

**INSTRUCTIONS:**

- i) Answer ALL the questions.
  - ii) Each question carries ONE Mark.
  - iii) Write the answers in 1 – 2 sentences.  $7 \times 1 = 7$
1. What happens when ciliary muscles become weak gradually?
  2. If the radius of curvature of a spherical mirror is 30 cm. What is its focal length?
  3. A student has written electronic configuration of carbon as following.  

↑↓	↑↓	↑↓		
1s	2s	2p		

 Which rule does not support this?
  4. Which are in each of the following pairs is larger in size?  
(i) Na, Na<sup>+</sup>      (ii) Na, Mg<sup>+2</sup>
  5. What precautions must be taken while conducting the experiment angle of vision of eye.
  6. List out the apparatus required to find the refractive index of a prism experimentally.
  7. Why do we use the tooth paste with basic nature?

SECTION - II

INSTRUCTIONS:

- i) Answer ALL the questions.  
 ii) Each question carries TWO Mark.  
 iii) Answer the questions in 4 – 5 sentences.  $6 \times 2 = 12$
8. Explain about co-ordination number. What are the co-ordination number of  $\text{Na}^+$  and  $\text{Cl}^-$  ions in NaCl crystal?
9. Electronic Configuration of an element is  $1s^2 2s^2 2p^1$ . Write the four quantum number values for  $2p^1$  valence electron.
10. Imagine what happens if chemical bond does not form?
11. Think that lenses are not discovered. Imagine the consequences that are faced by a human suffering from eye defects.
12. Complete the following table for the positions of object placed as in the different places on the principle axis of a concave mirror.

S.No.	Position of the object	Position of image	Enlarged/ Diminished	Erected/ Inverted	Real or Virtual
1	Between P and F				
2	Between F and C				

13. What is the mirror used in car head light? Where are the bulbs kept in car head light?

SECTION - III

INSTRUCTIONS:

- i) Answer ALL the questions.  
 ii) Each question carries FOUR Marks.  
 iii) There is internal choice for each question only one option from each question is to be attempted.  
 iv) Answer each question in 8 to 10 sentences.  $4 \times 4 = 16$
14. Explain the formation of any two compounds according to Kossel's theory (Electron Transfer Theory).

(OR)

Write the balanced chemical equations for the following reactions.

- i) Calcium hydroxide + Carbondioxide  $\longrightarrow$  Calcium carbonate + Water  
 ii) Zinc + Sodium hydroxide  $\longrightarrow$  Sodium Zincate + Hydrogen  
 iii) Magnesium + Hydrochloric acid  $\longrightarrow$  Magnesium Chloride + Hydrogen  
 iv) Sodium hydroxide + Sulphuric acid  $\longrightarrow$  Sodium Sulphate + Water
15. How do you verify experimentally that the focal length of a convex lens is increased when it is kept in water.

(OR)

Write down the process and materials used in the experiment of the reaction of carbonates and metal hydrogen carbonates with acids producers corresponding salt, carbondioxide gas and water.

16. Draw any four ray diagrams for an object which placed on principal axis using convex lenses.

(OR)

Draw the shapes of s and p orbitals.

17.

Group → / Period ↓	1	2	13	14	15	16	17	18
2	Li	Be	B	C	N	O	F	Ne
3	Na	Mg	Al	Si	P	S	Cl	Ar

- i) If in 2<sup>nd</sup> and 3<sup>rd</sup> periods from left to right what will be the change in Atomic size? Support your answer.
- ii) In a period from left to right, how does the metallic character of elements vary?

(OR)

Observe the following table to answer the questions given below.

Substance	H <sub>2</sub> SO <sub>4</sub>	HCl	H <sub>2</sub> O	NH <sub>4</sub> OH	NaOH	KOH
pH value	2	1	7	9	13	12
Nature	Acidic	Acidic	Neutral	Basic	Basic	Basic

- i) Which is the substance of low pH value? Mention its pH value?
- ii) What is the nature of H<sub>2</sub>O? Give reasons.
- iii) When pH indicator is added to H<sub>2</sub>SO<sub>4</sub>, to which colour it changes?
- iv) Which is the weak base among the substances and give reasons for it.

## INSTRUCTIONS:

- i) Answer ALL the questions.  
 ii) Each question carries  $\frac{1}{2}$  Mark.  
 iii) Answers are to be written in question paper only.  
 iv) Marks will not be awarded in any case of any over writing and rewriting or erased answers.  
 v) Write the CAPITAL LETTER showing the correct answer for the following questions in the brackets provided against them.

$$10 \times \frac{1}{2} = 5$$

18. If  $n = 3$  and  $l = 2$  the energy level represented as ( )  
 A) 3s B) 3p C) 3d D) 3f
19. In halogen family, the electron gain enthalpy is the highest for ( )  
 A) F B) Cl C) Br D) I
20. The element that is not 'O' valent ( )  
 A) Ne B) Ar C) Al D) Kr
21. Which one of the molecule is Pyramidal ( )  
 A)  $H_2O$  B) HCl C)  $CH_4$  D)  $NH_3$
22. Gram Molar Volume is ( )  
 A) 2.24 l B) 2.24 ml C) 22.4 l D) 22.4 ml
23. Which of the following match is incorrect? ( )  
 A) Solar cooker – Concave mirror  
 B) ENT Doctor – Concave mirror  
 C) Car head lights – Concave mirror  
 D) Rear View mirror – Concave mirror
24. The distance between the eye lens and retina is ( )  
 A) 2.5 cm B) 2 cm C) 1.75 cm D) 7 cm
25.  $f = \frac{R}{2}$  is valid for ( )  
 A) Convex mirrors only B) Concave mirrors only  
 C) Plane mirror D) Convex and Concave mirrors
26. The mirror used to shave is ( )  
 A) Plane mirror B) Concave mirror  
 C) Convex mirror D) None of these
27. When acid rain flows into the rivers, then the pH of the water ( )  
 A) Increases B) Decreases C) No change D) Can not say

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