

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:

1. Read the whole question paper and understand every question thoroughly without writing anything and 15 minutes of time is allotted for this.
2. Answer the questions under PART – A on a separate answer book.
3. 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: 35

Note: i) PART – A comprises of three Sections I, II and III.

ii) All questions are compulsory.

iii) There is no overall choice. However there is internal choice to questions under Section – III.

SECTION – I

INSTRUCTIONS:

i) Answer ALL questions.

ii) Each question carries ONE Mark.

iii) Write the answers in 1 – 2 sentences.

7 × 1 = 7

1. How much volume can occupy by 1 gm. of Hydrogen at S.T.P.?
2. Which Quantum number can explain the space orientation of the orbital?
3. What happens to the image distance in the eye when we increase the distance of an object from the eye?
4. The element having atomic number 21, belongs to which group and which period in a periodic table. Imagine.
5. Draw the structure of NH₃ molecule.
6. Draw a figure to show the behaviour of a parallel beam of rays fall on a concave lens making some angle with principal axis.
7. Due to the scattering of which molecules present in atmosphere are responsible for appear sky in blue colour?

SECTION – II

INSTRUCTIONS:

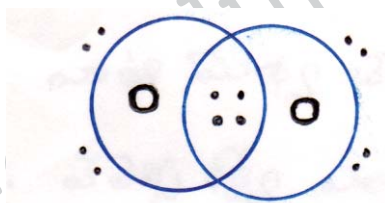
i) Answer ALL the questions.

ii) Each question carries TWO Marks.

iii) Answer the questions in 4 – 5 sentences.

6 × 2 = 12

8. A concave mirror produces 2 times magnified real image of an object placed at 20 cm in front of it. Where is the image located?
9. Substance 'X' turns blue litmus into red. Substance 'Y' turns red litmus into blue. If the reaction takes place between X and Y, guess what are the substances to be formed? Give reason.
10. In an experiment mixing of Sodium sulphate solution to Barium chloride solution, which precipitate is formed and write chemical equation for it.
11. With the help of given diagram answer the questions.



- i) How many valence electrons are present in Oxygen atom?
- ii) Which is the bond between Oxygen atoms?
12. For the formation a virtual image in a concave mirror, where should we place the object? Draw a ray diagram to show this.
13. Doctor advised to use 2D lens. What is its focal length?

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 – 10 sentences.

4 × 4 = 16

14. An object is placed at a distance of 24 cm from a convex mirror of focal length 30 cm then find the position and nature of the image?

(OR)

How many types of images forms due to lenses? What are those? Mention the differences between them.

15. Write the main points of Valence Shell Electron Pair Repulsion Theory (VSEPR)?

(OR)

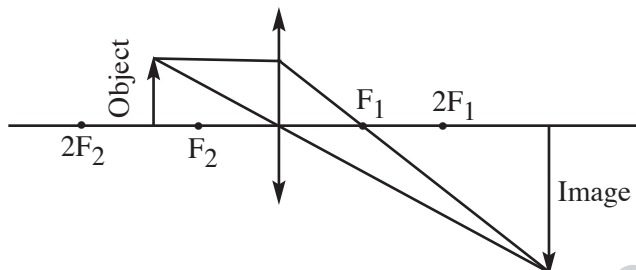
Write the postulates of Bohr's atomic model and mention its limitations.

16. List out the apparatus required to find the refractive index of a prism experimentally. Explain the procedure with the help of a rough diagram.

(OR)

Acids produce ions only in aqueous solution. How can you justify your answer with an experiment?

17.



Observe the diagram and answer the following.

- State the position of object.
- Compare distances of object and image from lens?
- Write characteristics of image?
- Where we placed an object to get enlarged virtual image formed by this lens?

(OR)

The figure given below shows a part of periodic table. Five elements in first three periods are shown by P, Q, R, S, T which are not the original symbols of those elements.

1							18
P	2	13	14	15	16	17	
		Q					R
S						T	

- Which letters represent alkali metals?
- Write the letter which represents a noble gas.
- What is the letter that shows Halogen?
- Which type of bond will be formed between the elements P and T?

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 overwriting, rewriting or erased answers.
- v) Write the CAPITAL LETTER (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them. $10 \times \frac{1}{2} = 5$
- The angle of vision of an human being is ()
A) 30° B) 40° C) 60° D) 80°
 - Where should an object be placed from a converging lens of focal length 10 cm. So, as to obtain a virtual image of magnification 2 is ()
A) 5 cm B) 10 cm C) 20 cm D) 40 cm
 - The image is formed by a concave mirror is virtual, erect and magnified. The position of the object is ()
A) at F B) between F and C
C) at P D) between P and F
 - Find the distance of the image when an object is placed on the principal axis at a distance of 10 cm in front of a concave mirror whose radius of curvature is 8 cm. ()
A) 6.2 cm B) 6.5 cm C) 7.2 cm D) 6.6 cm
 - The elements with atomic numbers 2, 10, 18, 36, 54 and 86 are known as ()
A) halogens B) noble gases
C) chalcogens D) alkali metals
 - Calculate the mass of hydrogen liberated when 230 grams of sodium reacts with excess of water (At wt. of Na = 23) ()
A) 1 gram B) 23 grams C) 5 grams D) 10 grams
 - Match the following. ()
i) $104^\circ 31'$ a) NH_3
ii) 180° b) BF_3
iii) $107^\circ 48'$ c) BeCl_2
iv) 120° d) H_2O
A) i-d, ii-c, iii-b, iv-a B) i-d, ii-a, iii-c, iv-b
C) i-d, ii-c, iii-a, iv-b D) i-a, ii-b, iii-c, iv-d

8. Select the incorrect balanced chemical equation of the following. ()
- A) $4 \text{NH}_3 + \text{Cl}_2 \longrightarrow \text{N}_2\text{H}_4 + 2 \text{NH}_4\text{Cl}$
- B) $\text{NH}_3 + 3 \text{Cl}_2 \longrightarrow \text{NCl}_3 + 3 \text{HCl}$
- C) $8 \text{NH}_3 + 3 \text{Cl}_2 \longrightarrow 6 \text{NH}_4\text{Cl} + \text{N}_2$
- D) $2 \text{NH}_3 + 3 \text{Cl}_2 \longrightarrow 2 \text{NCl}_3 + 3 \text{HCl}$
9. The substance used in the bandage of fractured bones is ()
- A) Gypsum
- B) Bleaching Powder
- C) Plaster of Paris
- D) Calcium Sulphate
10. The mirror used in the Solar devices are ()
- A) Concave mirror
- B) Convex Mirror
- C) Plane Mirror
- D) None of these

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