TENTH CLASS MODEL PAPER

SUMMATIVE ASSESSMENT - 2

PHYSICAL SCIENCE PAPER - I

Time: 2 Hrs. 45 Min.	(English Version)	Max. Marks: 50

INSTRUCTIONS

1. There are four sections and 33 questions in the paper.

2. Answers should be written in a given answer booklet.

3. There is an Internal Choice in Section - IV only.

4. Write all the answers visible and legibly.

5. 15 minutes are given for reading the question paper and 2.30 hours given for answering questions.

SECTION - I

Note: i) Answer ALL the questions.

ii) Each question carries $\frac{1}{2}$ Mark. $12 \times \frac{1}{2} = 6$

1. Write the Len's formula.

2. If the power of the lens is +4D. Then the focal length of lens and nature of the lense?

3. The least and the most electronegative element pairs among the following is?

   a) Fluorine, Oxygen   b) Oxygen, Fluorine

   c) Cesium, Fluorine   d) Carbon, Fluorine

4. Which of the following molecules have one sigma (σ) bond and two pi (π) bonds?

   C_2H_2, N_2, O_2, CO_2

5. The resultant resistance of series of combination of 8 Ω, 9 Ω?

6. Choose the suitable answer of Section B with Section A?

Section A	Section B
Material Medium	**Refractive Index**
i) Kerosene	a) 1.50
ii) Benzeen	b) 1.0003
	c) 1.44

7. Which of the following is false?

   i) Magnetic field lines are imaginary.

   ii) Magnetic field lines are closed smooth curves.

   iii) Magnetic field is three dimentional.

   iv) The magnetic field is very weak at the poles of a magnet.

   a) i and iii   b) ii and iii   c) i and iv   d) only iv

8. The speed of light in a glass is 2×10^8 m/sec. Calculate the refractive index of the glass is?

9. The specific heat of four metals are given below:

Metal	Specific heat
Lead	130
Zinc	391
Iron	483
Aluminium	882

Which of these substances show more reluctance to change its temperature? Why?

10. pH scale is given below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14

Which of the following statement(s) is (are) true?

i) Lemon juice represents 9 on this scale.

ii) Pure water represents 7 on this scale.

11. Name two metals which does not reacts with Oxygen.

12. Identify the functional groups in the following compound.

$$CH_3 - CH_2 - \underset{\underset{Cl}{|}}{CH} - CHO$$
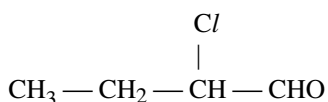
SECTION - II

Note: i) Answer ALL the questions.

ii) Each question carries ONE Mark.   **8 × 1 = 8**

13. Convert 28°C into Kelvin scale.

14. Name the phenomenon involved in the formation of mirages.

15. Write the importance of rods and cones of retina.

16. Give reason for the need of classification of elements.

17. What is the difference between the valence electrons and co-valency of an element?

18. Why is Oxy acetylene flame used for welding process?

19. Who discovered the Magnetic Effect of current?

20. Mention the application of thermite process in daily life.

SECTION - III

Note: i) Answer ALL the questions.

ii) Each question carries TWO Marks.   **8 × 2 = 16**

21. What is the differnce between σ and π bonds?

22. Frame some questions to know about the properties of convex lens and concave lens.

23. What do you assume, when an electron enters in 1s, 2s, 2p orbitals, after that it does not enter 3s orbital. If it enters into 3p orbital what will happen?

24. Mention any two precautions you have taken while doing the activity to observe the reaction of acids with metals.

25. How do you appreciate the nature of molecules responsible for the blue of the sky?

26. A house has 2 tube lights 30 watts on the average, all the tube lights are kept on for five hours. Find the energy consumed in 30 days.

27. Mention the importance of convex lens used in microscope.

28. What is the reason for low melting point for covalent compounds when compared to ionic compounds.

SECTION - IV

Note: i) Answer ALL the questions.

ii) Each question carries FOUR Marks.

iii) There is an Internal Choice for each question. $5 \times 4 = 20$

29. **a)** Write the factors that effect the process of evaporation. Explain with suitable examples.

(OR)

b) Explain the Magnetic Field due to the solenoid with suitable activity.

30. **a)** Describe an activity to show that blue coloured copper sulphate contains water of crystalization.

(OR)

b) Explain the significance of three quantom numbers in predecting the position of an electron in an atom.

31. **a)** Explain the experimental method with glass slab in determination of refractive index through vertical shift.

(OR)

b) State Ohm's Law. Suggest an experiment to verify it and explain the procedure.

32. **a)** Given below are four elements with their atomic number:

Element	Atomic number
A	16
B	11
C	3
D	14

i) Identify the elements which belongs to the same group.

ii) Arrange the given elements in decreasing order of atomic size.

iii) Write the formula of the oxide of element B.

iv) Which of the above element is metalloid?

(OR)

b) Complete the following table.

Functional group	Structural formula	Example	Suffixes
Ketone	R - CO - R	$CH_3 - CO - CH_3$	-one-
Ester	-	$CH_3 - COO - C_2H_5$	-
Amine	$R - NH_2$	-	-
Alcohol	-	-	-o*l*
Halogen Product	-	-	halide

33. **a)** Draw the ray diagram for image formation by convex lens, keeping the object at given below positions. Draw a table to show the nature of the image.

i) Beyond the centre of curvature (beyond C)

ii) At the focal point (at F)

(OR)

b) Draw a neat diagram of Reverberating furnace.

D.V. Subba Naidu