BOARD OF SECONDARY EDUCATION (AP)

SUMMATIVE ASSESSMENT – I

TENTH PHYSICAL SCIENCE MODEL PAPER

PAPER – I (ENGLISH VERSION)

Time: 2 hrs. 45 mins.	PART – A & B	Maximum Marks: 40

INSTRUCTIONS:

1) This paper contains PART - A and PART-B.

2) Answer the questions under PART - A on separate answer book. Write the answers to the questions under PART - B on the question paper itself and attach it to the answer book of PART - A.

3) Answer all the questions. Internal Choice is given to the questions under Section - III.

4) In the duration of 2 hrs. 45 mins., 15 minutes of time is alloted to read the question paper.

Time: 2 hrs.	PART – A	Marks: 30

INSTRUCTIONS:

1) PART - A comprises three sections I, II and III.

2) All the questions are compulsory.

3) There is no overall choice. However there is an Internal Choice to the questions under Section - III.

SECTION – I

NOTE: i) Answers all the questions.

ii) Answer each question in 1 or 2 sentences.

iii) Each question carries ONE mark. $4 \times 1 = 4$

1. Give an example to explain that evaporation is a cooling process.

2. Which mirror is used as a rear-view mirror in the vehicles?

3. On adding dilute Hydrochloric acid to Copper oxide powder, the solution formed is blue green. Write the new compound formed.

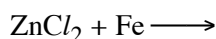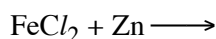4. Why does the soil of agriculture lands get tested for pH?

SECTION – II

NOTE: i) Answers all the questions.

ii) Answer each question is 4 or 5 sentences.

iii) Each question carries TWO Marks. $5 \times 2 = 10$

5. Why do water drops (dew) form on flowers and grass during morning hours of winter?

6. Write the products of given reactions, if any give reason.

$FeCl_2 + Zn \longrightarrow$

$ZnCl_2 + Fe \longrightarrow$

7. Name the four chemicals that are obtained from common salt and write their molecular formula.

8. Assume that an object is kept at a distance of 20 cm. infront of a Concave mirror. If its focal length is 30 cm, then what is the image distance?

9. Write two uses of fibre optics in daily life.

SECTION – III

NOTE: i) Answer ALL the questions.

    ii) Answer each question in 8 - 10 sentences.

    iii) There is Internal Choice for each question.

    iv) Only one option from each question is to be attempted.

    v) Each question carries FOUR marks.   **4 × 4 = 16**

10. Sudheer wants to verify the law of reflection. What apparatus he requires to prove them? State the laws of reflection and write the experimentation process he follows.
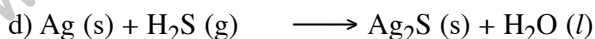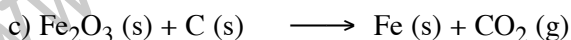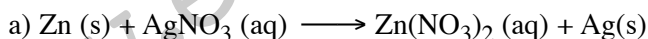
(OR)

'Different substances have different values of specific heat'. Explain the reasons for this.

11. Explain the formation of a virtual image by a concave mirror.

(OR)

Some times during the hot summer at noon time on tar roads, it appears that there is water on the roads, but there would be really no water. What do you call this phenomenon? Explain why it happens.

12. Balance the following chemical equations.

a) $Zn (s) + AgNO_3 (aq) \longrightarrow Zn(NO_3)_2 (aq) + Ag(s)$

b) $Cu (s) + O_2 (g) \longrightarrow CuO (s)$

c) $Fe_2O_3 (s) + C (s) \longrightarrow Fe (s) + CO_2 (g)$

d) $Ag (s) + H_2S (g) \longrightarrow Ag_2S (s) + H_2O (l)$

(OR)

What is the difference between displacement and double displacement reaction? Write equations for these reactions.

13. What is meant by 'Water of Crystallization' of a substance? Describe an activity to show the water of Crystallization.

(OR)

Read the information given in the table and answer the following questions.

S.No.	Solution	pH Value	S.No.	Solution	pH Value
1.	HC*l*	1	4.	NaC*l*	7
2.	Distilled Water	7	5.	Baking Soda	8
3.	NaOH	13	6.	Lemon Juice	2.5

a) List out the acids in the above table.

b) List out the neutral solutions in the above table.

c) Name the strongest acid and strongest base among the given solutions.

d) Name the salt in the above table.

Time: 30 Minutes   **PART – B**   Marks: 10

INSTRUCTIONS:

i)   Answer ALL the questions.

ii)   Each question carries $\frac{1}{2}$ mark.

iii)   Marks will not be awarded in any case of over-writing, rewritten or erased answers.

iv)   Write the CAPITAL LETTER (A, B, C, D) showing the correct answer for the following

       questions in the brackets provided against them. $20 \times \frac{1}{2} = 10$

SECTION – IV

Note: i) Answer ALL questions.

      ii) Each question carries $\frac{1}{2}$ mark.

14.   The temperature (T) of two samples of the same substances with masses m_1 and m_2 and temperatures T_1 and T_2, when added together is   ( )

     A) $\dfrac{m_2T_1 + m_1T_2}{m_1 + m_2}$ B) $\dfrac{m_1T_1 + m_2T_2}{m_1 + m_2}$

     C) $m_1T_2 + m_2T_1$ D) $m_1T_1 + m_2T_2$

15.   The S.I. unit of Specific heat is ....   ( )

     A) J.kg/K   B) Cal/g°C   C) J/kg – K   D) Cal – g°C

16.   .... is a Cooling process.   ( )

     A) Evaporation   B) Condensation   C) Melting   D) Boiling

17. $Zn + 2 HCl \rightarrow ZnCl_2 + H_2$ is an example for   ( )

     A) Chemical combination   B) Chemical double displacement

     C) Chemical decomposition   D) Chemical displacement

18.   If the gas liberated in an experiment allows the burning splinter to continue burning more brightly in its presence, the gas is ....   ( )

     A) Oxygen   B) Hydrogen   C) Carbon dioxide   D) Nitrogen

19.   The process of preparing slaked lime by adding water to quick lime is this type of chemical reaction

         ( )

     A) Decomposition reaction   B) Exothermic reaction

     C) Endothermic reaction   D) Displacement reaction

20.   Boiling point of water is   ( )

     A) 100 K   B) 273 K   C) 373 K   D) 540 K

21.   The mirror used by ENT specialists is   ( )

     A) Convex mirror   B) Concave mirror   C) Plane mirror   D) Parabolic mirror

22.   The mirror which always give diminished image is   ( )

     A) Plane mirror   B) Convex mirror   C) Concave mirror   D) None of these

23.   Radius of Curvature R = -x focal length   ( )

     A) 2   B) 3   C) 4   D) 1

24.   .... image cannot be caught on a screen.   ( )

     A) Real   B) Coloured   C) Virtual   D) Blurred

25. Which substance in the following in its aqueous solution reacts with carbonate to give CO_2. ( )

A) Na_2CO_3 B) $CuSO_4$ C) HCl D) $KMnO_4$

26. Which one of the following is given to a person who suffers from acidity to get relief from it?

A) Carbonated water B) Baking Soda C) Vinegar D) Lime Juice

27. Which one of the following metals reacts both with acid and base and release hydrogen gas? ( )

A) Na B) Fe C) Cu D) Zn

28. Formula of bleaching powder. ( )

A) Na_2CO_3 B) $CaCl_2$ C) $CaOCl_2$ D) $NaHCO_3$

29. This is not an acid. ( )

A) Gastric Fluid B) Vinegar C) Lemon Juice D) Blood

30. Concept of pH is introduced by ( )

A) Sorensen B) Boyle C) Lewis D) Bohr

31. At a critical angle of incidence, the angle of refraction is ( )

A) 45° B) 90° C) 180° D) 30°

32. The refractive index of glass with respect to air is 2. Then the critical angle of glass air interface is ( )

A) 45° B) 0° C) 30° D) 60°

33. The unit of refractive index is ( )

A) Diaptore B) m/sec C) Pascal D) no units

PART - B ANSWERS

14-B; 15-C; 16-A; 17-D; 18-A; 19-B; 20-C; 21-B; 22-B; 23- A; 24-C; 25-C; 26-B; 27-D; 28-C; 29-D; 30-A; 31-B; 32-C; 33-D.

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