BOARD OF SECONDARY EDUCATION (TELANGANA)

SUMMATIVE ASSESSMENT – II

TENTH CLASS GENERAL SCIENCE

PHYSICAL SCIENCE MODEL PAPER

PAPER – I (ENLISH VERSION)

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

Instructions:

i) The question paper comprises of four Sections I, II, III and IV.

ii) All the questions are compulsory.

iii) There is no over-all choice. However there is internal choice to the questions under Section – I.

iv) In the time duration of 2 hrs. 45 minutes, 15 minutes of time is exclusively allotted to read and understand the question paper.

Time: 2 hrs. **PART – A** **Marks: 35**

SECTION – I

Note: i) Answer ALL the questions.

ii) Each question carries ONE mark.

iii) Write the answers in 1 – 2 sentences. **7 × 1 = 7**

1. $CH_2 = CH_2 + H_2 \xrightarrow{Ni} CH_3 - CH_3$ is an addition reaction $CH \equiv CH + H_2 \xrightarrow{Ni}$?

Predict and write the products.

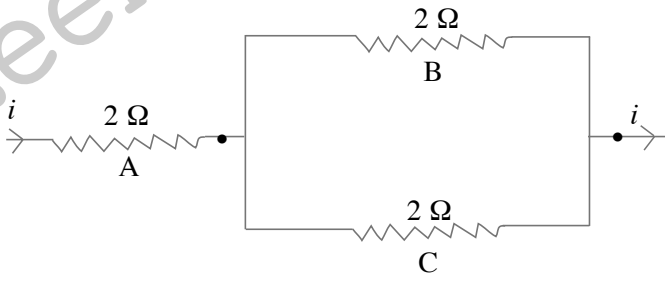
2. Why the soil of agricultural lands gets tested for pH?

3. How do you explain the role of oxygen in combustion process?

4. Write any two questions about the 'formation of mirages'.

5. What physical quantity can be found in an experiment done with prism?

6. Three resistors A, B and C are connected as shown in the figure. Each of them dissipates energy to a maximum of 18 W. Find the maximum current that can flow through the three resistors.



7. What happens when a current carrying wire is placed in a magnetic field?

SECTION – II

Note: i) Answer ALL the questions.

ii) Each question carries TWO marks.

iii) Write the answer in 4 – 5 sentences. **6 × 2 = 12**

8. Ravi wants to make a lens. Which formula has he to follow? Write the formula and explain the terms in it.

9. What value of pH in the mouth leads to tooth decay? Why?

10. The atomic number of an element is 35. Where would you expect the position of this element in the Periodic table? Why?

11. a) Why are vegetable oils healthy as compared to vegetable ghee?

b) Represent the formation of oxygen molecule from oxygen atoms using Lewis notation.

12. Explain the importance of ciliary muscles in the eye.

13. Anand appreciated the law behind the making of 'generator'. Name the law and state it.

SECTION – III

Note: i) Answer ALL the questions.

ii) Each question carries FOUR marks.

iii) There is Internal Choice for each qeustion, only one option from each question is to be attempted.

iv) Write the answer in 8 – 10 sentences. **4 × 4 = 16**

14. A) List the materials required for conducting an experiment to find the focal length of a Concave mirror. Explain the experimental process also.

(OR)

B) How can you verify with experiment "The magnetic field lines are closed loops"?

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

a) Angle of incidence

b) Angle of emergence

c) Angle of deviation

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

(OR)

B) A transparent sphere of radius R and refractive index n is kept in air. At what distance from the surface of the sphere should a point object be placed on the principal axis so as to form a real image at the same distance from the second surface of the sphere.

16. A) Balance the following Chemical equations

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

ii) $Fe_2O_3\ (s) + C\ (s) \longrightarrow Fe(s) + CO_2$

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

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

(OR)

B) Two elements x and y belong to Groups 1 and 2 respectively in the same period of the Periodic table. Compare these elements with respect to

i) Number of electrons in their outer most orbit.

ii) Their atomic size and their valencies.

iii) Their ionisation energy and metallic character.

iv) Formula of their chlorides and sulphates.

17. A) Write short notes on the following

a) Distillation b) Poling c) Liquation d) Electrolysis

(OR)

B) Why do we call alkanes as Paraffins? Explain the substitution reaction of alkanes.

Time: 30 minutes **PART – B** **Marks: 5**

SECTION – IV

INSTRUCTIONS:

i) Answer ALL the questions.

ii) Write the CAPITAL LETTER (A, B, C, D) showing the correct answer for the following questions in the brackets provided against each question.

iii) Each question carries $\frac{1}{2}$ mark. **$10 \times \frac{1}{2} = 5$**

1. Chemical formula for Propane is ( )

A) C_3H_8 B) C_3H_6 C) C_3H_4 D) C_5H_8

2. Size of image formed by a Convex mirror is always. ( )

A) enlarged B) Diminished

C) equal to the size of the object D) depends on position of object

3. If a base dissolves in water by what name is it better known? ( )

A) Neutral B) Base C) Acid D) Alkali

4. Which one of the following is normally used for the Preparation of lenses? ( )

A) Water B) Glass C) Plastic D) All the above

5. During refraction ..... will not change ( )

A) Wave Length B) Frequency C) Speed of Light D) All the above

6. Electrons enter ..... orbital after filling the 3d orbital. ( )

A) 4s B) 5s C) 4p D) 5p

7. Number of elements present in 3^{rd} Period of the long form of Periodic table. ( )

A) 2 B) 8 C) 18 D) 32

8. The concept of orbitals hybridisation was introduced by.... ( )

A) Linus Pauling B) Moseley C) Lewis D) Kossel

9. The disaster caused due to an overload can be avoided by using a/an ..... ( )

A) ammeter B) voltmetre C) switch D) fuse

10. The SI unit of magnetic filed induction is ( )

A) Tesla B) Weber C) Weber/meter D) Weber-meter

PART – B: ANSWERS

1-A; 2-B; 3-D; 4-B; 5-B; 6-C; 7-C; 8-A; 9-D; 10-A.